December 26, 1942

Railway Age

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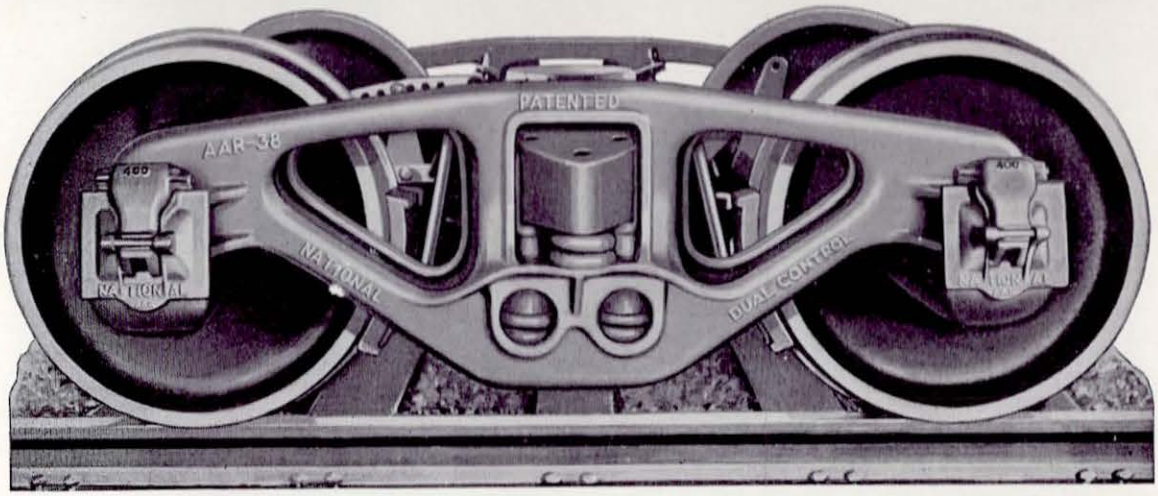
GENEVA COLLEGE

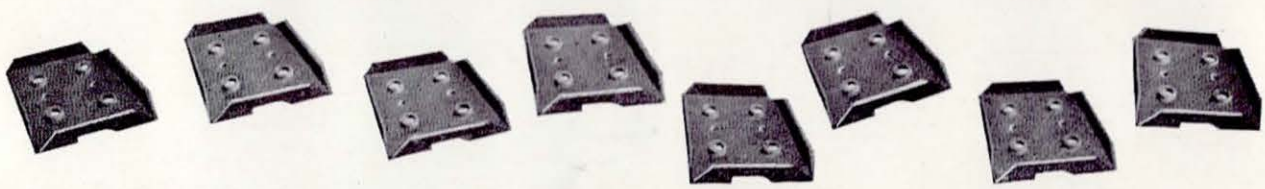
Let Freedom Ring—
and on earth peace, good will toward men

ELECTRO-MOTIVE DIVISION
GENERAL MOTORS CORPORATION LA GRANGE, ILLINOIS, U. S. A.

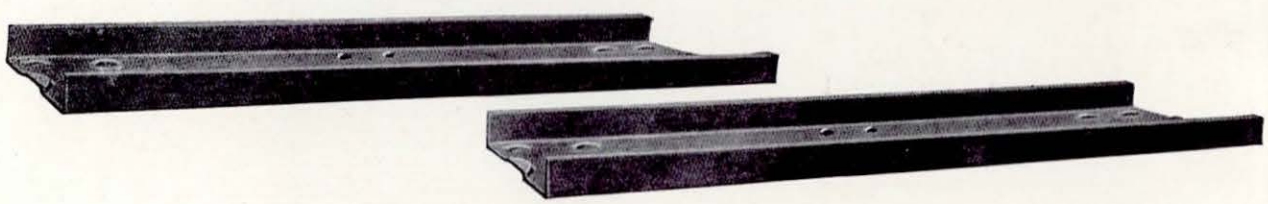
NATIONAL B-1 TRUCKS with DUAL CONTROL



Save Weight, Time and Expense



A. A. R. Standard Springs used in National B-1 Trucks are held firmly in position in the side frame, and the Eight spring retaining plates (illustrated above) used in other types of trucks are eliminated.



Two Spring Planks per car are also eliminated—At least 500 lbs. of vital steel per car are saved by elimination of the items shown.

Built-in Friction Controls make the usual snubbers unnecessary.

They meet all A.A.R. requirements.

NATIONAL MALLEABLE AND STEEL CASTINGS CO.
General Offices: CLEVELAND, OHIO
Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

Canadian Representatives: RAILWAY AND POWER ENGINEERING CORPORATION, LTD., *Toronto and Montreal*

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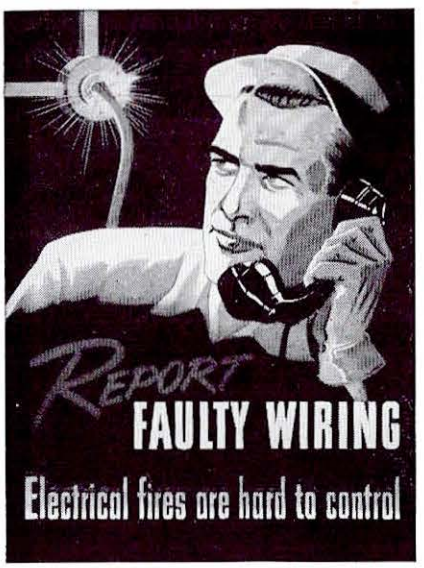
FIGHTING FIRES before they start

Most fires are preventable. A smoldering cigarette, flipped carelessly into a dark corner . . . a welder's spark flying unnoticed into a pile of oily waste—these little things can, and do, start devastating fires.

At the beginning of the war emergency, recognizing that fire is a treacherous and deadly saboteur of production, Bethlehem intensified its attack on the fire hazard. As always, trained, fully-equipped fire-fighting forces supplied the backbone of the fire-control effort, maintaining day-and-night vigilance in every Bethlehem plant and shipyard.

But to bring home the vital importance of fire prevention and control to every Bethlehem employee, we've designed a series of posters in full color and are displaying them in key locations throughout all Bethlehem shipyards and steel plants, which are now engaged in vital war work.

These posters are based on analysis of the most serious causes of fire and the all-important part of the human element in fire prevention. By pointing out to employees specific ways in which they can prevent or subdue fires, the posters are helping to minimize a potentially grave threat to the production of war materials.



Five of Bethlehem's series of fire-prevention posters. These posters are printed in full color. Each poster is designed to emphasize a specific problem in fire prevention or control.

BETHLEHEM STEEL

War-production plant executives who are carrying on fire-prevention campaigns may find these posters of interest. A complimentary set will be supplied on request to Bethlehem Steel Company, Bethlehem, Pa.

..are freight cars weapons of war?

ASK THE AXIS WHY IT SO FEARS AMERICA!

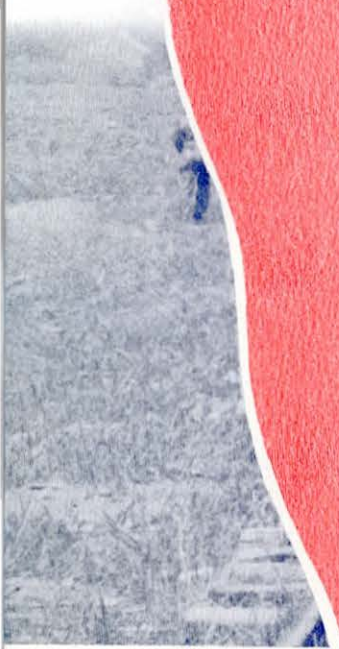
Ask the madman of Berchtesgaden . . . ask his poor pawn in Rome . . . ask the Son of Heaven. Each will tell you that one thing that haunts his dreams is this country's tremendous mobility — its power to move unequalled masses of men and goods at unequalled speeds.

Ask the Axis how many guns it would gladly give for the destruction of even a few thousands of those American freight cars now playing their part in speeding against it the most tremendous volume of munitions the world has ever known.

Ask the Axis what whole armies it would gladly give, could it but possess for itself America's freight cars, America's railroads, and America's skill in operating them!

Are freight cars weapons of war? Ask the Axis!

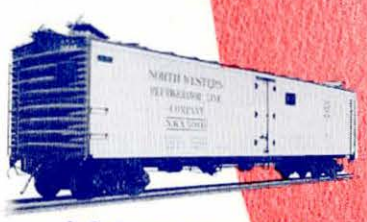
Through three wars, A.C.F. has served the Nation with freight cars and other weapons of war. Today, A.C.F. is making great quantities of tanks and other munitions . . . and is building fighting freight cars, too!



A.C.F.

AMERICAN CAR AND FOUNDRY CO.

NEW YORK, CHICAGO, ST. LOUIS, CLEVELAND, PHILADELPHIA, PITTSBURGH, ST. PAUL, SAN FRANCISCO

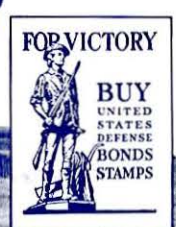


A.C.F. REFRIGERATOR CAR

A.C.F. FLAT CAR

A.C.F. HOPPER CAR

THE AXIS!



Photographs above by courtesy of the Atchison, Topeka and Santa Fe Railway System

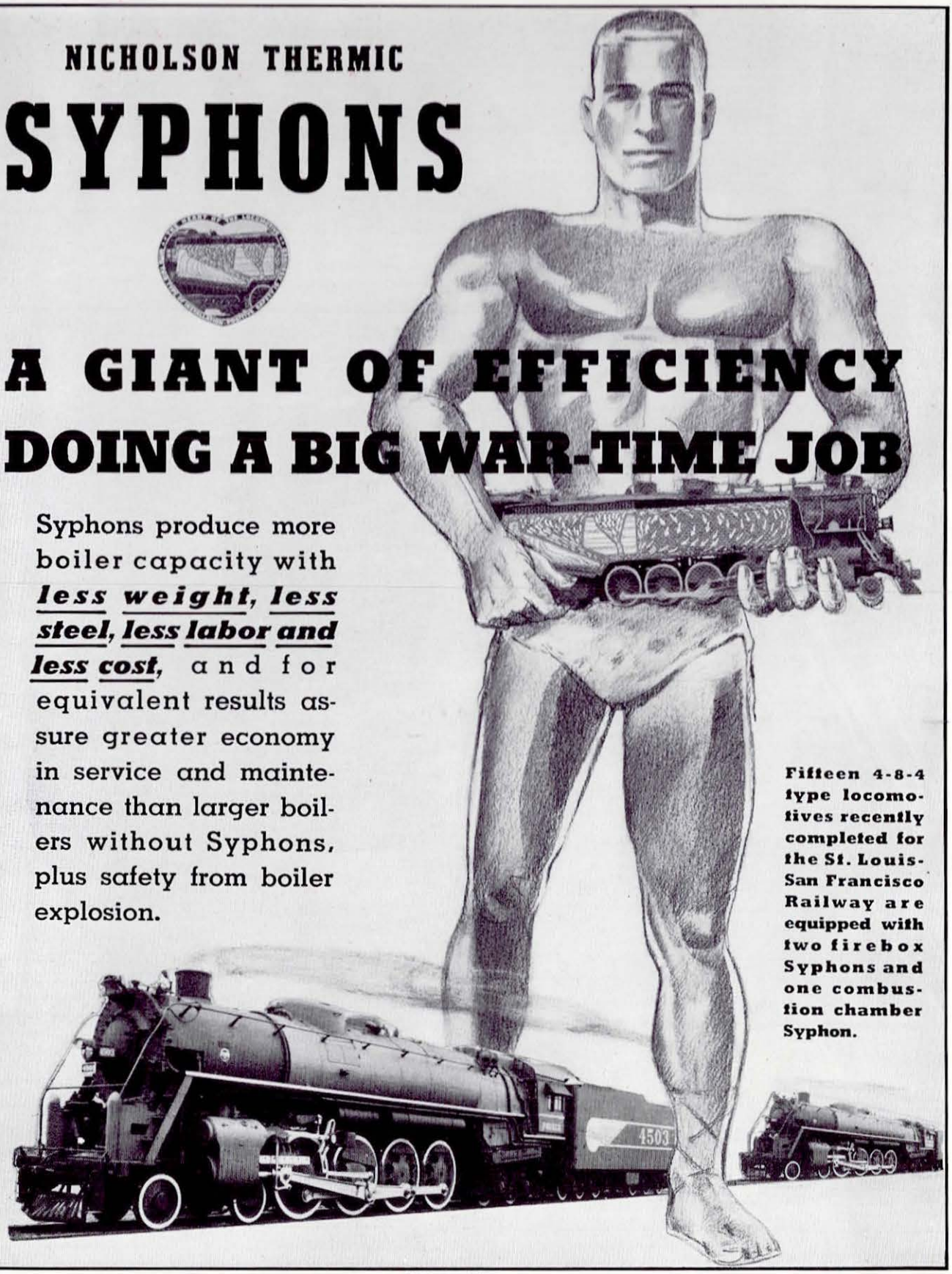
WHATEVER A.C.F. BUILDS—IT IS KNOWN TO BUILD WELL!

NICHOLSON THERMIC

SYPHONS

A GIANT OF EFFICIENCY DOING A BIG WAR-TIME JOB

Syphons produce more boiler capacity with ***less weight, less steel, less labor and less cost,*** and for equivalent results assure greater economy in service and maintenance than larger boilers without Syphons, plus safety from boiler explosion.



Fifteen 4-8-4 type locomotives recently completed for the St. Louis-San Francisco Railway are equipped with two firebox Syphons and one combustion chamber Syphon.

Locomotive Firebox Company

NEW YORK CHICAGO MONTREAL

CLEARING THE DOCKS FOR ACTION

I was visiting with a Midwestern freight agent when a local manufacturer telephoned: "We must rush two carloads of Russian defense material to catch a ship."

"Better consult the export authorities about that," advised the freight agent. "You know that now you have to have a permit from the Government and then have it validated by the Manager of Port Traffic of the Association of American Railroads before we can move that shipment to seaboard."

"Why do I need a permit?" demanded the manufacturer. "This is war material and Russia needs it now—without delay."

"It's for your own protection as well as for the protection of other shippers," replied the agent. "Most important, however, is the fact that it conserves railroad equipment."

Naturally, the manufacturer was hot under the collar. But after the freight agent explained the situation, he soon cooled off. He was not as familiar with transportation matters as those who have been keeping in touch through the thirteen regional Shippers' Advisory Boards and their freight-car efficiency committees.

Briefly, the freight agent told the manufacturer that, with overseas shipping space limited and under the direct control of the Government, the railroads were not moving any export tonnage to any of our ports until the shipment had been approved and they knew that there was room for it—that the freight would be unloaded from the cars promptly upon arrival at ship's side.

"We're not going to have any pile-ups at seaports this time," the freight agent reminded the manufacturer.

During the first World War—as you and I remember too well—there was such a rush to get war material overseas, there was such a general marking up of export shipments as "priorities," that all along the Atlantic seaboard thousands upon thousands of freight cars blocked railroad yards and terminals.

The railroads delivered the freight on time. But there was so much confusion because of the uncontrolled use of "priorities" that nobody knew what freight to unload first. As a result, thousands of freight cars became nothing but wheeled warehouses. They stood idle, under load, for weeks and months in many instances, unable to be moved or unloaded because of the congestion.

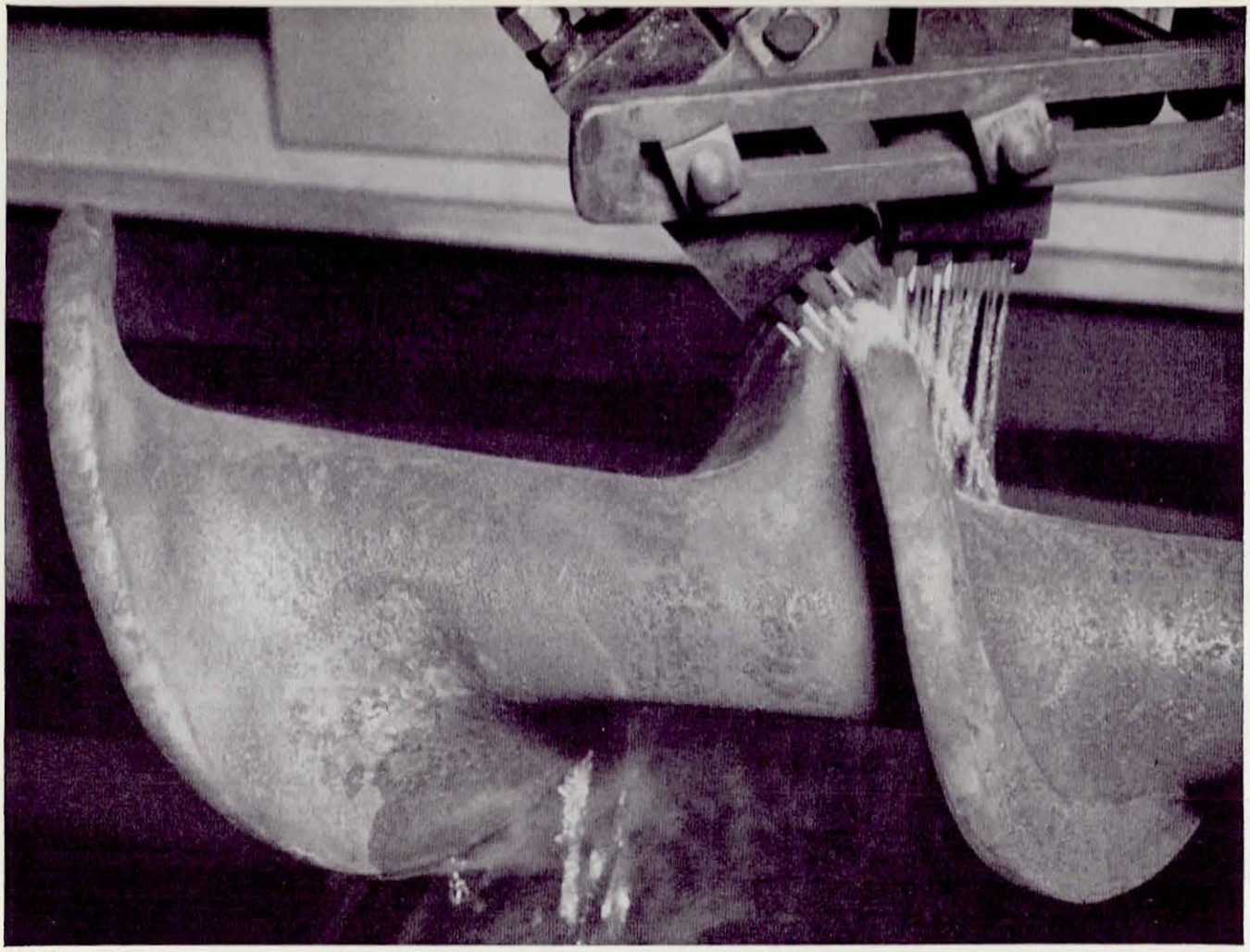
This time things are different. There is little storage in freight cars these days. Railroads and shippers are better organized and are working so closely with the Government that no goods are being permitted to roll toward seaports until the Manager of Port Traffic advises there will be no congestion, no pile-up, at the port of embarkation. Cars are being unloaded promptly and as they are released for further transportation service, others move in as space is available.

Good sense on the part of the railroads and shippers, plus Government assistance, is solving the problem before we get to it. Exports are moving through our ports systematically and in immense volume. Freight cars are not being stalled on sidetracks now. They're rolling as they never rolled before.

—The Trackwalker

AMERICAN LOCOMOTIVE • GENERAL ELECTRIC

113-1-9500



FLAME-HARDEN *New or Rebuilt Parts to Make Them Last Longer*

● Oxy-acetylene flame-hardening is a recommended method for giving steel or iron wearing parts additional surface hardness that makes them last longer before replacement is required. Engine truck rockers, rocker seats, chafing castings, crosshead guides, spring saddles, spring-saddle seats, engine truck journal boxes, sheave wheels, wearing plates, and — as shown above — stoker screws, are included in the long list of parts that are being flame-hardened before use. Most commonly used steels and high-strength cast irons can be flame-hardened successfully. In addition, when such parts become worn they can be rebuilt with Oxweld M.W. Steel Welding Rod or No. 9 Cast Iron Welding Rod, and then flame-hardened to retard future wear.

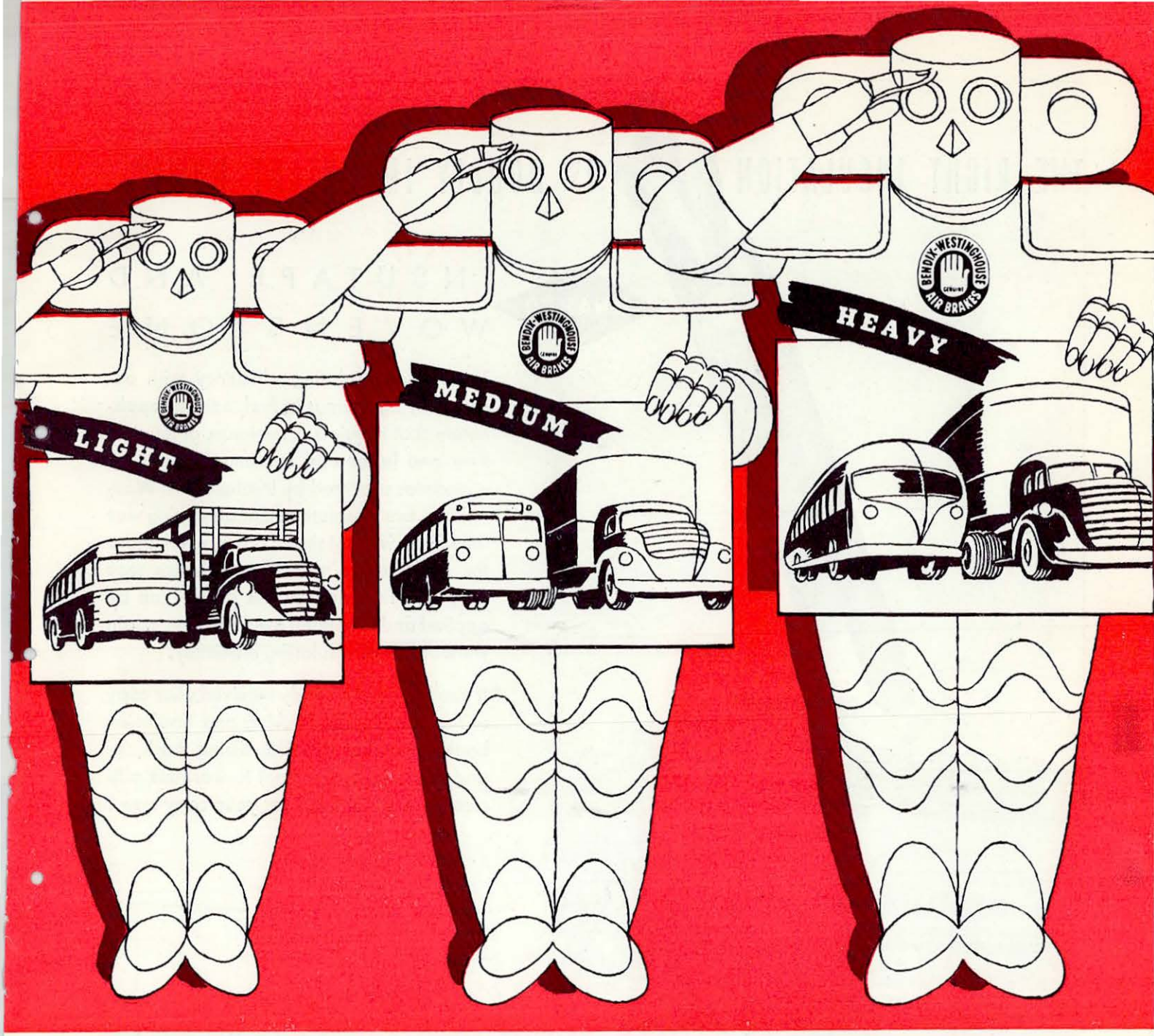
THE OXWELD RAILROAD SERVICE COMPANY
Unit of Union Carbide and Carbon Corporation

UCC

Carbide and Carbon Building Chicago and New York

SINCE 1912—THE COMPLETE OXY-ACETYLENE SERVICE FOR AMERICAN RAILROADS

The word "Oxweld" is a registered trade-mark of a Unit of Union Carbide and Carbon Corporation.



THREE GOOD MEN . . . AND TRUE

As ever, genuine Bendix-Westinghouse Automotive Air Brakes cover the entire field of commercial motor transportation with a specific control for each braking requirement ★ Bendix-Westinghouse fully recognizes the distinct variations between services and has engineered a safe, economical, powerful control to meet every purse and purpose ★ Today, as always, you may confidently select the genuine Bendix-Westinghouse Brake individually suited to your particular operation or service . . . and with full assurance that you have availed yourself of the finest ★ If you're not already fully aware of the very marked superiority and many exclusive advantages of genuine Bendix-Westinghouse Air Brakes and Air Control Devices, we earnestly suggest you contact your nearest Authorized Bendix-Westinghouse Distributor.

BENDIX-WESTINGHOUSE AUTOMOTIVE AIR BRAKE CO.
ELYRIA, OHIO

AN ORGANIZATION WHOSE UNDIVIDED EFFORT AND COMPLETE RESOURCES ARE DEVOTED TO YOUR CONVENIENCE AND SAFETY

THE RIGHT INSULATION IS DOUBLY IMPORTANT NOW!*

UNARCO

INSUTAPE AND WOVENSTONE

The higher insulating efficiency with accompanying savings in fuel, ease of application that requires a minimum amount of time and labor and maximum operating economies provided by Insutape and Wovenstone are absolute essentials during war time. They will not shake down, even under the most severe vibration—always stay snug and firm against the pipe—can be applied and reapplied over and over again without loss of insulating efficiency.

*If you have not already received your copy of the new Unarco Packing and Insulation booklet number 48-968, listing packings and insulations important to war time efficiency, why not send for your copy now?

ARMY E NAVY

THE ARMY-NAVY "E" AWARDED TO THE PATERSON, N. J. PLANT FOR EXCELLENCE IN WAR PRODUCTION

UNION ASBESTOS & RUBBER CO.

310 SOUTH MICHIGAN AVENUE • CHICAGO • NEW YORK • SAN FRANCISCO • PATERSON

Some Men Build Planes with a Bulldozer

While the American construction industry has been performing fabulous feats of building, prophets have been predicting that "next year," war building would be all done, and the construction industry would retire, deflated, to the sidelines.

In 1940, the lull was to come in Spring, 1941. Then it was to come in Winter, 1941-42. Then in Spring, 1942. But this industry forges on and on, running up buildings, cutting down time, breaking records.

Construction this year will probably reach twelve billions. That outstrips anything ever seen. But already, post-war planners figure that a twenty-three billion dollar construction year is not hard to foresee in peacetime years. Already the backlog of unbuilt homes, postponed commercial buildings, and delayed public improvements is running into billions.

Koppers is grateful that it has been able to contribute to the construction industry's records by manufacturing and supplying pressure-creosoted and salts-treated timber required for war factories, hangars, defense housing, piers and other construction.

For one war factory roof alone, Koppers shipped 200 carloads of coal tar roofing. Koppers waterproofing has gone into ammunition igloos . . . important Koppers ingredients have gone into the plastics which bond the layers of plywoods now used in such volume . . . Koppers road tars have built access roads to war factories and army camps. These are but a few examples of peacetime products satisfying vital wartime needs. Koppers Company, Pittsburgh, Pa.

Buy United States
War Bonds and Stamps

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

TANKERS THE SUBS *CAN'T* SINK

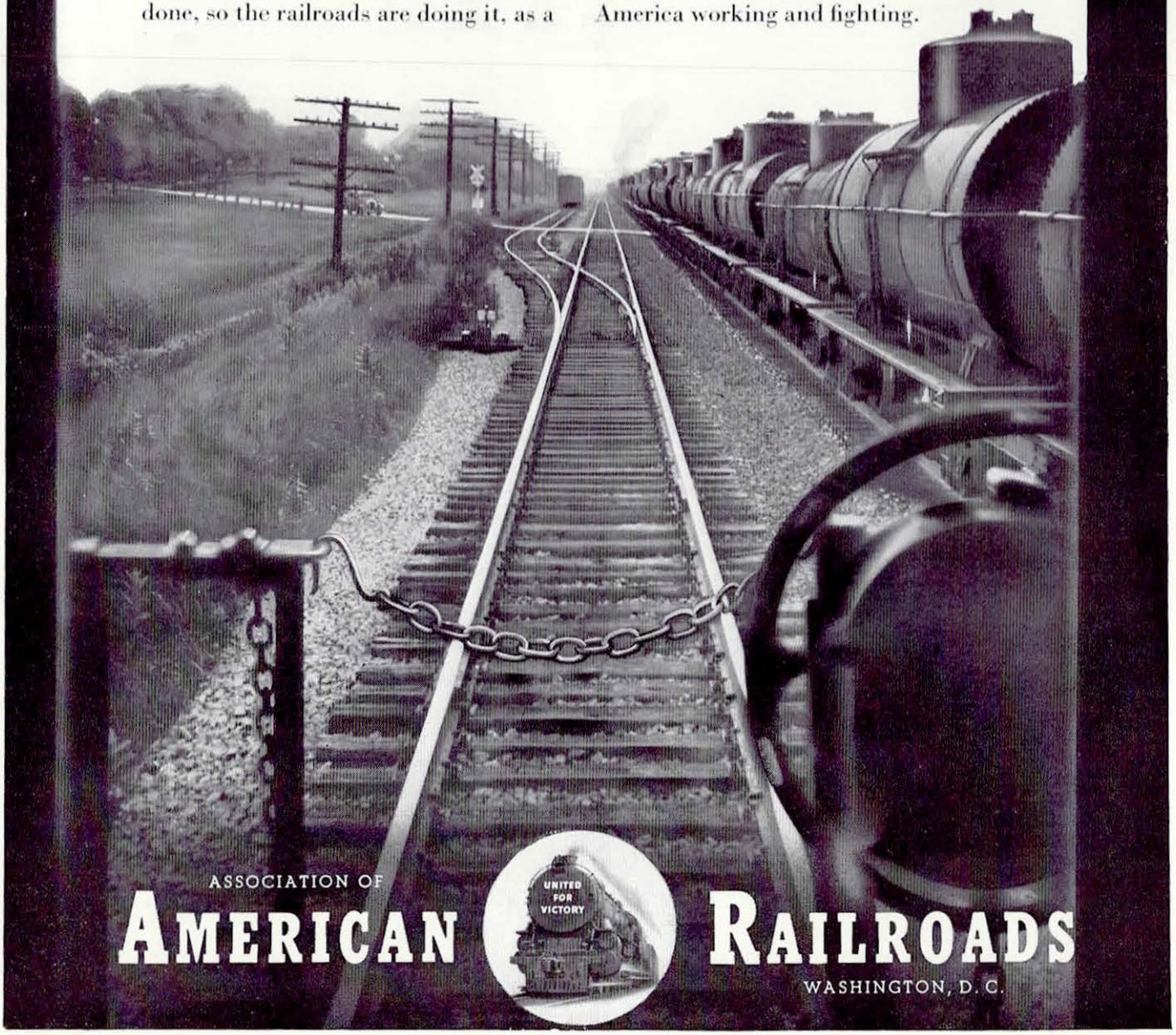
MORE than *34 million gallons of oil* a day are rolling into the East in tank cars.

That's *70 times* the amount the railroads usually have been called upon to transport—well over half the total needs, hauled in tankers the subs can't sink.

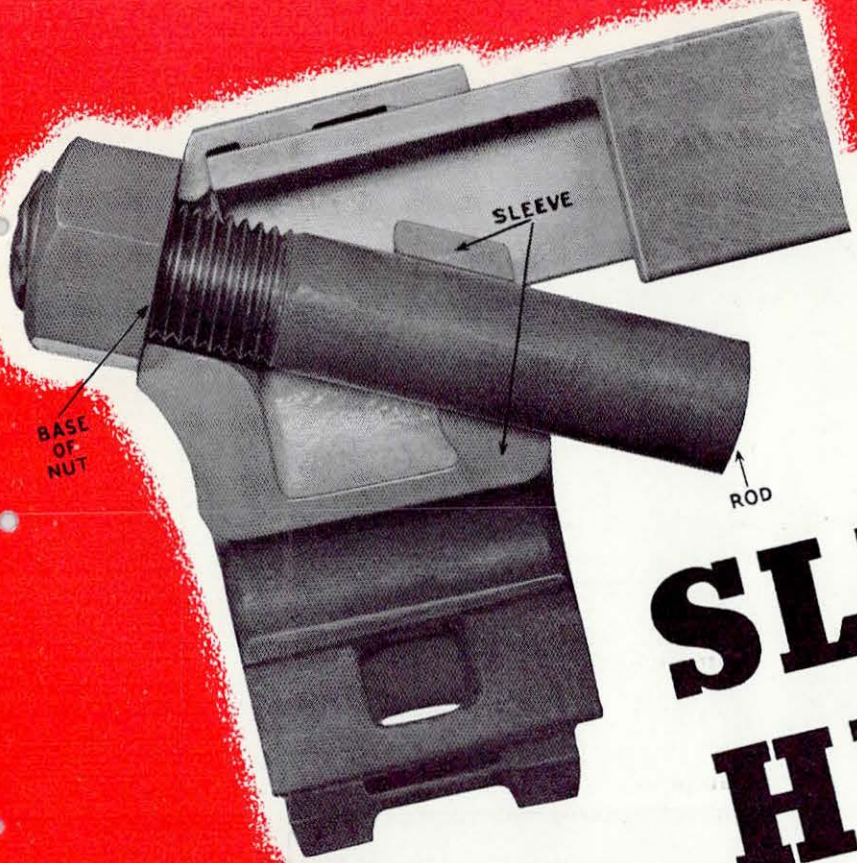
To handle this new assignment takes the full time of 1,400 locomotives, when there are a dozen other uses for every locomotive in the war program as a whole. But it's a job that has to be done, so the railroads are doing it, as a part of their bigger job of hauling 1¼ million tons of freight a mile every minute round the clock.

Behind this record oil movement is a story of the American brand of cooperation: by the companies that ship the oil—by the companies that own the tank cars—by the Federal Petroleum Cooperator—by the Office of Defense Transportation.

That's why this particular story of what the railroads are doing is a good example of what it takes to keep America working and fighting.



ASSOCIATION OF
AMERICAN RAILROADS
WASHINGTON, D. C.



SLEEVE HEADS

strengthen brake beams

The Sleeve provides additional tension rod support . . . removes concentrated stresses from threaded portion of rod at base of nut, distributing them throughout the rod. . . .

Increases tension rod life . . . reduces brake beam failures . . . assists war effort by conserving steel.

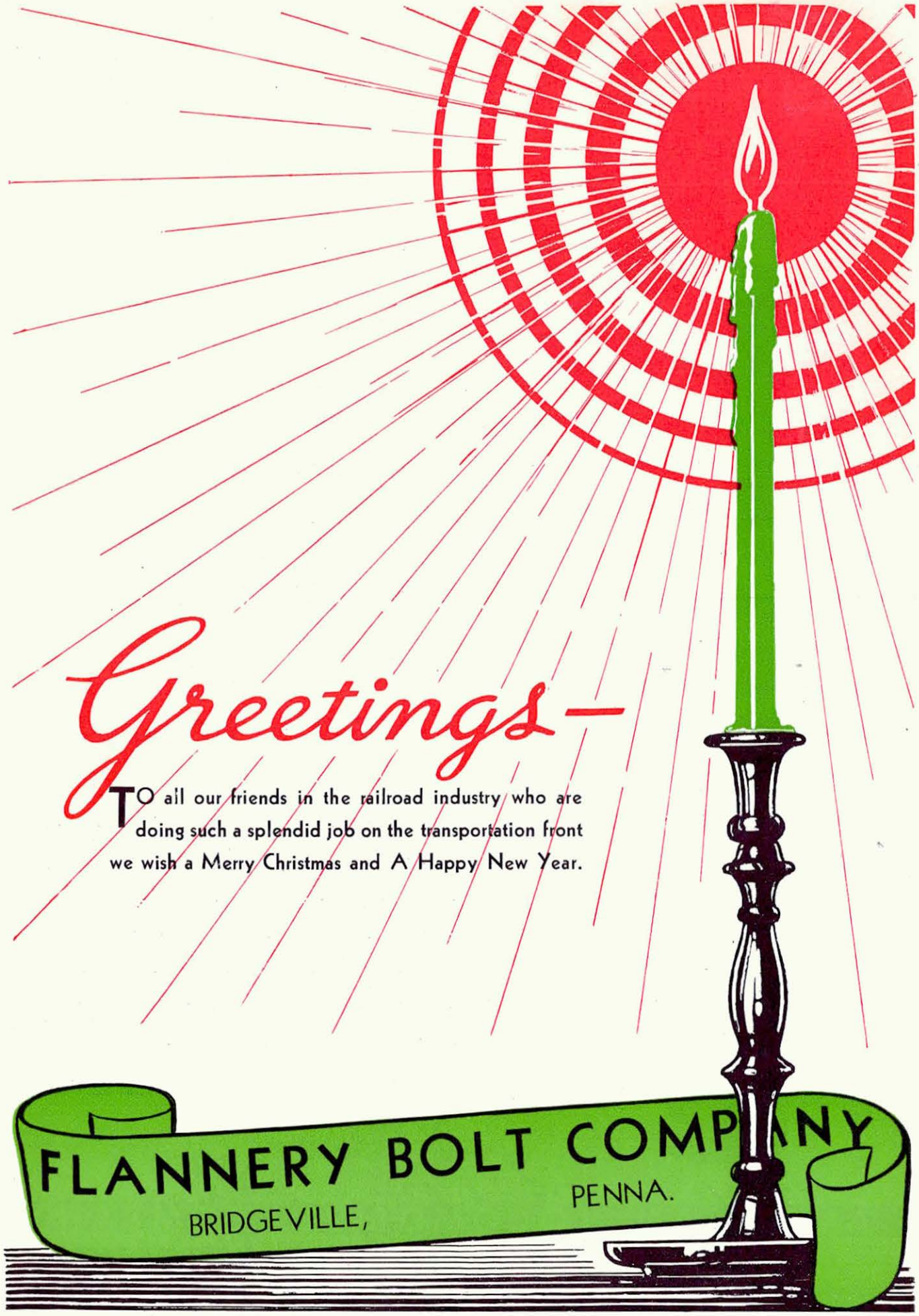
•

Over 2,500,000 in service

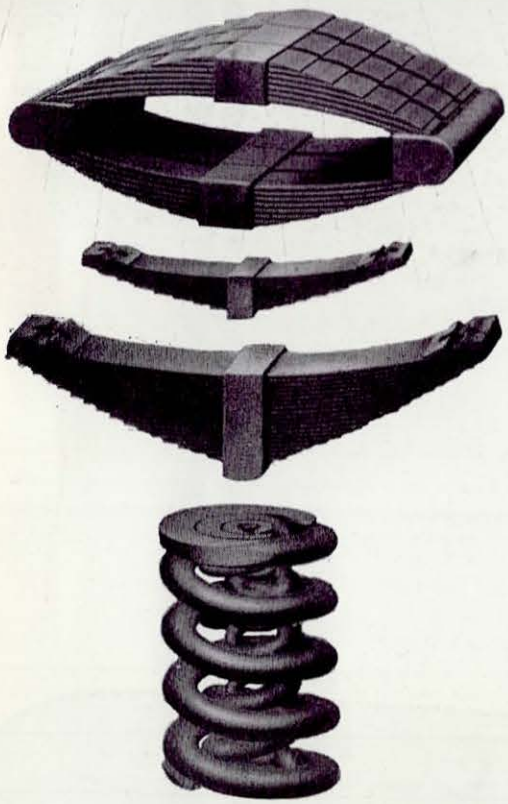
Sleeve Brake Heads are A.A.R. Standard.

AMERICAN STEEL FOUNDRIES *Chicago*

Season's Greetings
THE
BALDWIN
LOCOMOTIVE WORKS
PHILADELPHIA


Greetings—
TO all our friends in the railroad industry who are doing such a splendid job on the transportation front we wish a Merry Christmas and A Happy New Year.
FLANNERY BOLT COMPANY
BRIDGEVILLE, PENNA.

"Railway" Springs



on DIESEL POWER

MODERN Diesel locomotives operating in high speed passenger and freight service require quality springs to protect their mechanism and the track structure from undue shock and vibration. "Railway" Steel Spring Division has all the facilities, metallurgical, research, heat treating and manufacturing, combined to produce the right springs for your unusual service.

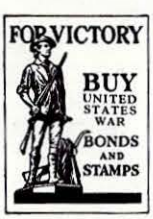
AMERICAN LOCOMOTIVE COMPANY

Railway Steel Spring Division

30 CHURCH STREET, NEW YORK, N. Y.

PEERLESS
H-1-B Draft Gear

A.A.R. APPROVED



Geared to the Needs of the Wartime Tempo

PEERLESS
Equipment Company
310 S. Mich. Ave., Chicago, Ill.

Holiday
Greetings
The past year has been an arduous one. Herculean transportation problems were encountered, and solved! . . . Skillful planning — efficient use of facilities — whole hearted cooperation — these have combined to bring outstanding achievement . . . For the increasingly difficult tasks that are imminent, may your heart remain vigorous , your will firm, your hand be adequately strengthened . . . We covet a continuing share in the vital endeavor of our railroad friends.
To the end that all of us may quickly return to serving the needs of a nation at peace.

WESTINGHOUSE AIR BRAKE COMPANY

WILMERDING, PA.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 113 December 26, 1942 No. 26

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This article explains how the haphazard methods of earlier days have gradually been systematized and uniform practices adopted to protect both patrons and carriers.

Blackout and Protective Lighting ***1028***

Extracts from an address by W. G. Darley, of the General Electric Company, setting forth means to deter saboteurs from important railway structures and to foil the attacks of enemy airmen.

Air Cargo Economically Limited ***1032***

An abstract of the discussion at the air-cargo engineering meeting held under the auspices of the Society of Automotive Engineers recently in Chicago.

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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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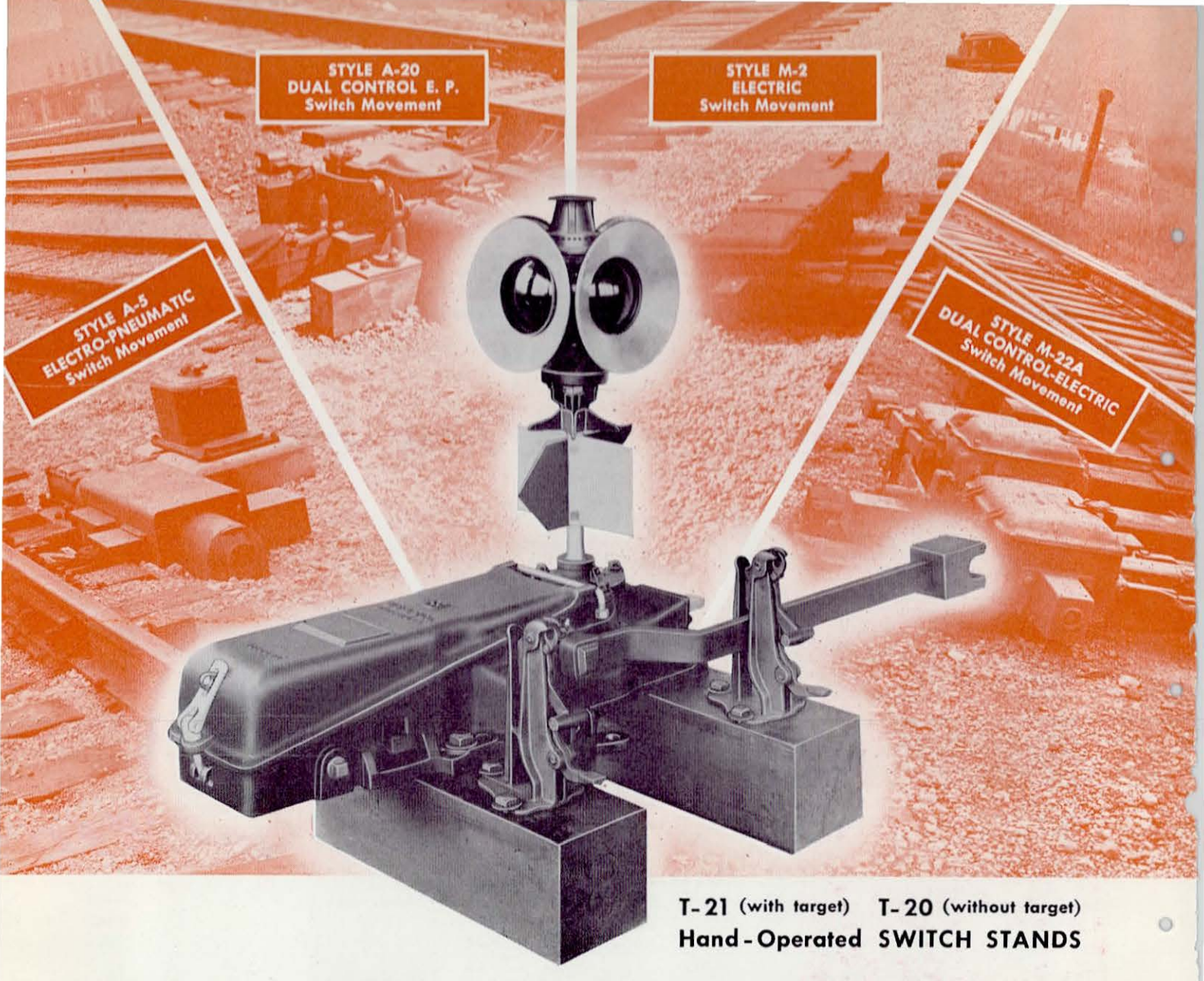

T-21 (with target) **T-20** (without target)
Hand-Operated SWITCH STANDS

Like its BIG BROTHERS!

IN "Union" hand-operated switch stands are incorporated the same careful planning and workmanship that characterize their well-known companions of "Union" manufacture—the power-operated electric and electro-pneumatic switch and lock movements. Under modern operating conditions, automatically controlled signals are relied upon for protection to train movements over hand-operated switches. Maximum utility of signals in this respect can be secured only through use at the switch of a device which has been basically designed and engineered with expert knowledge of how this can be accomplished. "Union" Styles T-20 and T-21 switch stands meet the requirement because they provide:

First— a strong lock rod which mechanically locks the switch in the normal position

Second—a circuit controller which checks that the lock rod is actually locked

Third— independent actuation of the same circuit controller to insure by means of a separate rod connection to the points that the points are properly positioned

Fourth— locking of the switch throw rod in both the normal and reverse positions by mechanism action.

The experience gained in the production and servicing of power-operated switch movements for over fifty years has been applied to the production of Styles T-20 and T-21 switch stands. Expert knowledge has made possible a stand which produces maximum thrust at the switch points with minimum effort at the throwing lever. Bulletin 156 gives complete details.

UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.
NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

The Week at a Glance

ROOSEVELT ON WAGE CASE: The law provides an administrative set-up to "stabilize" wages—and pre-war law says that National Mediation Board machinery decides disputes between railway managements and unions. As a practical matter, however, as everybody knows, the President of the United States has made himself the judge in all important union disputes on the railroads. The current wage increase move is to be no exception—as Mr. Roosevelt made clear last week. The case is kept out of the "stabilization" mill, and, hence, will be handled by Presidential appointees whose statutory duties do not include the prevention of inflation.

●

MORE REPAIRS NEEDED NOW: Not only is present equipment far less in quantity than that which hauled much smaller traffic in 1923, 1929 and 1941—but the present limited supply is kept in service most of the time. That is, "bad orders" are held down to an irreducible minimum. What this means, of course, is that (comparatively speaking) they are "running the wheels off" of the supply of equipment. The obvious conclusion from this condition is that a *steady stream of repair parts and replacements* is far more important to continued efficient operation than it has ever been before. The leading editorial sets forth the peculiarities of the present equipment situation and draws conclusions which need careful attention by those who have any say about materials allocation.

●

CAR SPRING PROBLEM: The hard part of springing a freight car comes from the necessity of providing resiliency for a heavy load, without so much stiffness that an empty will be, in effect, unsprung. Under present heavy loading, there is real danger from faulty springing, as experience with tank cars has shown. C. J. Holland, in a short article herein, demonstrates the ill effects which arise from springs which have taken a permanent set, and urges detection and removal of these trouble-makers as a necessary step in maintenance of efficient transportation.

●

POOLING MOTOR SERVICE: The Missouri Pacific bus operation between Memphis, Little Rock and Texarkana is required by the ODT to pool its service with an all-highway competitor. Tickets are interchangeable, schedules are "staggered"—and the number of schedules each competitor may operate is limited. Similar shot-gun nuptials have been ordained for Burlington truck operations, as is recorded in the news pages herein.

●

EVOLUTION IN TARIFFS: There are plenty of suggestions coming along all the time for improving railroad tariffs—and, gradually, meritorious reforms are adopted. Those who are impatient at the rate of progress will find comfort and enlightenment in an article herein on the Evolution of Tariff Publication. The work of two tariff men of long experience—in collaboration with one of the best-known educators in the field—this discussion takes the reader back to the old pen-and-ink and hand-press days. Maybe there is still a long way to go, but we have also come a long way—and by the method which introduces the good of the new without too much risk of losing that of the old.

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LIGHT FOR PROTECTION: Enough illumination of the right quality to provide protection for railway property—but with the minimum of visibility for an enemy in the air—such is the difficult job of the engineer in charge of protective illumination. How the job can be done in specific situations around a railroad is set forth in a paper, reported herein, by W. G. Darley of the General Electric Company.

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FILLING THEM WITH AIR: The school system is getting a set of textbooks in which the subject matter is presented—not primarily to instruct the pupils in the three R's, but rather to make them "air-minded." Arithmetic problems in these texts have to do with flight calculations. Geography, history, biology—all have been re-written to inculcate zeal for aviation in the young mind. Not so long ago, there was some distaste expressed at Hitler's using the German schools primarily as a means to indoctrinate the pupils with his pet enthusiasms—perverting education from its historic function of general enlightenment. But that is in benighted Germany. In the schools of the enlightened United States, so the New York Times reports, "literature of the air is replacing the classical readings of former years."

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ECONOMICS AND AVIATION: Elsewhere herein is reported discussion of the economic limitations of air transportation of freight, developed at a recent meeting of automotive engineers at Chicago. The consensus was similar to that which other creditable observers have concluded, namely, that the field ascribable to air transportation of freight is *economically* a small one. However, from widespread activities by aviation devotees, such as that set forth in the foregoing paragraph, it seems possible to doubt that aviation will be confined by its economics. Actually, the plane is merely a mechanism for moving goods and people—having both its advantages and disadvantages, as do all agencies of transportation. But there are politically powerful people who attribute to this mechanism much more than its intrinsic qualities—who yield it a devotion similar to, and perhaps even replacing, that which they owe to their country and to Divine Providence.

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ALLDREDGE ICC CHAIRMAN: Reverting to its former custom of rotating its chairmanship, with one-year tenure, the I. C. C. has elected J. Haden Alldredge to this post for 1943. The turn belonged to John L. Rogers, but he passed it up because of the extra work he is doing for ODT. Commissioner Alldredge, it will be remembered, came to the I. C. C. from the T. V. A.

WINTER HAS COME: It is by now, probably, betraying no military secret to observe that over last week-end the temperature in a certain section of this continent was unseasonably frigid—and that, as a result, long-distance trains got somewhat behind schedule. In the August 29 issue of this paper was published an editorial entitled "If Winter Comes"—in which it was pointed out (1) how much cold weather increases the railways' operating difficulties, (2) how these difficulties are offset, in normal times, by a seasonal recession in traffic, (3) how, this year, the seasonal decline will not occur, and (4) how facilities and equipment were already strained to the limit by the pre-winter traffic. It was suggested that these conditions be taken into account (as they were not) by the WPB in its calculations of railway equipment requirements. If troubles of this kind recur, the responsibility will be that of the government "experts" who substituted their opinion for that of experienced railway men on what the carriers' need for equipment and materials was going to be.

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ALL-COMMODITY RATES OK: Rates from Mid-West points into southern territory, designed primarily to enable the railroads to compete for traffic highly susceptible to truck competition at standard class rates, have finally received I. C. C. approval. The commission finds that the rates have been generally beneficial. They have given the railroads more revenue per car and the customers lower rates per ton. They have held traffic which otherwise would have been lost. Even the truck lines which complained of these rates seem to have prospered well in spite of them. So the full commission has pronounced its benediction—but not without a discordant note from a near-majority in opposition, sticklers for formalism in classification.

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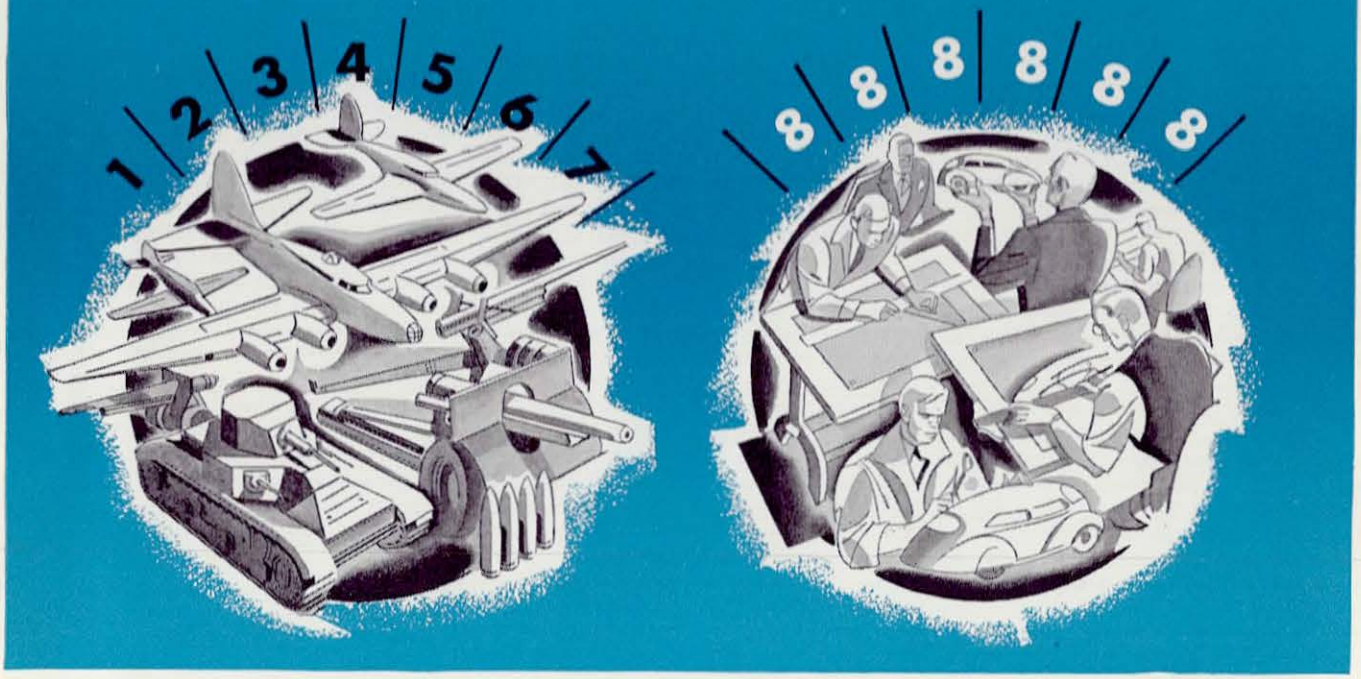
ABOLISH TRAFFIC MEN?: Commissioner J. Monroe Johnson wrote to A. A. R. President Pelley recently, suggesting that the railroads abolish their traffic departments for the duration. Mr. Pelley, in reply, reminded the Commissioner that the railroads had some expensive experience with this plausible expedient during the last war. It is easy to disband a sales organization, but it takes a long time to construct one. Freight traffic representatives, at the present time, are not needed for competitive solicitation—but they can, and do, render a valuable service to patrons by advising them on adherence to minimum loading requirements and other war-time rulings. With so much traffic moving over unusual routes, patrons need more help with rates and routing than in normal times. Mr. Johnson concedes that these are useful activities for traffic men, but he doesn't think they ought to do any competitive solicitation at all, nor that they should give passing reports and other such refinements of service to customers.

INDUSTRY IS ON AN EIGHT-DAY WEEK



Seven days a week America is doing one of the greatest jobs of production the world has ever known. We are living with one part of that job here at Alcoa, where over seventy thousand men and women are producing Aluminum in quantities that were mere fantasy yesterday.

But there's an eighth day tucked in among the few open spaces in the seven-day week. Engineers are able to squeeze in some important Imagineering about post-war products—planning that will help convert war jobs into peace jobs.

For instance:

Imagine what 1,000 pounds less weight in the automobile of the future would mean in performance, gas economy and tire life. Then engineer it down to the realization that 1,000 pounds *can* be taken off by using, say, 500 pounds of Aluminum per car.

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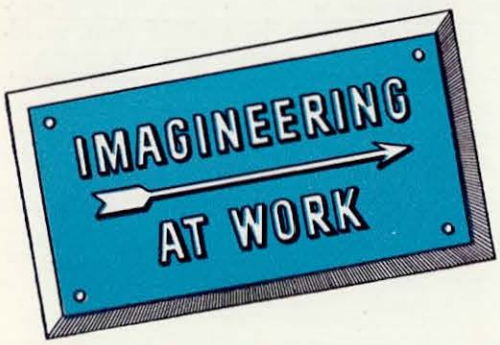
Our eighth day is devoted to helping Imagineers throughout industry use the potentialities of Alcoa Aluminum in bettering the new ideas they are dreaming up. ALUMINUM COMPANY OF AMERICA, 2178 Gulf Building, Pittsburgh, Pennsylvania.



ALCOA ALUMINUM

RAILWAY AGE

Efficiency FOR VICTORY

Imperative Need of Adequate Maintenance

That the railways are using all their physical facilities harder and wearing out most of them faster than ever before is easily demonstrable. And this is a fact which is vitally important as regards their problem for the duration of the war, and also important as regards their post-war problem.

Consider the following figures about equipment for the first ten months of four years of heavy traffic: 1923, average number of locomotives, 64,208; average number stored, 1,671; average number in bad order (i.e., needing repairs), 11,634; average number in active service, 50,903, or 79.3 per cent of the total number available. 1929, number of locomotives, 57,575; average number stored, 5,308; average number in bad order, 8,093; average number in active service 44,174, or 77 per cent of the total available. 1941, number of locomotives, 39,540; average number stored, 1,705; average number in bad order, 5,216; average number in active service, 32,619, or 82.5 per cent of the total available. 1942, number of locomotives, 39,271; average number stored, 1,112; average number in bad order, 2,889; average number in active service, 35,270, or 90 per cent of the total available.

Similar figures for freight cars are: 1923, number on line, 2,269,166; average surplus, 38,786; average in bad order, 194,568; average in active service, 2,035,812, or 90 per cent of number available. 1929, number of freight cars, 2,215,638; average surplus, 215,941; average in bad order, 138,145; average in active service, 1,861,542, or 84 per cent of number available. 1941, number of freight cars, 1,628,729; average surplus, 82,799; average in bad order, 92,315; average in active service, 1,453,615, or 89 per cent of number available. 1942, average number of freight cars, 1,702,653; average surplus, 60,896; average in bad order, 57,199; average in active service, 1,584,558, or 93 per cent of number available.

The traffic handled in 1942 has been vastly greater than that of 1923, 1929 or 1941; and the figures given emphasize strikingly how many less units of equipment have been available and used for handling it than in 1923 and 1929. Not less important are the data showing that, on the average, 90 per cent of all locomotives and 93 per cent of all freight cars have been kept in active service in 1942, as compared with 79 and 77 per cent of locomotives in 1923 and 1929, and as compared with 90 per cent and 84 per cent of freight cars in 1923 and 1929. Success in keeping such large percentages of total equipment constantly in active service has been due not only to unprecedentedly efficient distribution of it, but to unprecedented efficiency in keeping it in repair in spite of its relatively high average age and the difficulty of getting manpower and materials.

But the most important facts which are emphasized by the high percentages of total equipment that have been kept in constant hard service are that (1) equipment surpluses have been smaller this year than ever before and that (2) equipment is being *worn out faster than ever before.* These facts cannot safely be disregarded by anybody who has responsibility for determining either how much materials the railways shall be allowed for maintenance and repairs, or how much new equipment they shall get and how soon they will get it.

There have been 32 per cent, or 18,300, fewer locomotives, and 30 per cent, or 503,000, fewer freight cars, to keep in repair in 1942 than in 1929. But expenditures for maintenance of equipment were about the same in the first 10 months of the two years—$1,014 million in 1929 and $999 million in 1942; and they had become larger in the five months ending with October, 1942, than in these five months in 1929.

Causes of Accidents

The analysis of accident causes shows that most of them are preventable, and that intelligent procedure on the part of management will reduce the number and their cost, and aid the war effort. Many contributing causes are cited, but they may be grouped into unsafe physical conditions and unsafe acts of persons. Of all causes of accidents, 10 per cent fall in the former category and 88 per cent in the latter.

Unsafe physical conditions result from the employment of wrong materials and wrong design in the construction of facilities, equipment and tools; and from inadequate, disorderly and unhealthy working facilities. Such conditions can be remedied by management.

Unsafe acts of persons are the result of mental and physical health and lack of training. Mental conditions which cause unsafe acts are responsible for many accidents, and because they are not easily recognized, they continue to be a major cause. Their detection and cure call for skill and experience; and, therefore, it is to the advantage of a railroad to set up means for the detection and treatment of such mental conditions.

The mental problems that can be solved include the sluggish mind which retards the individual's ability to "escape" accidents, fear which paralyzes and prevents "escape," worry which affects judgment and action, psychosis and delusions of persecution which create an abnormal mental state, and disturbed emotions resulting from assignment to work that is either above or below the capability of the worker. Advanced mental illness is found to only a limited degree among railway workers, although it is pertinent to note that the examination of draftees has disclosed that 6.3 per cent of the men coming before the boards suffer from abnormal conditions of the mind.

Conditions of the body, including physical impairments and organic and inorganic diseases, are other causes of unsafe acts. These also can be controlled.

Lack of training is still another cause which contributes to unsafe acts. It results from absence during childhood and adult life of discipline and direction which promote alertness, and to a lack of specific instruction and supervision on the job.

Mentally alert workers are an asset in accident prevention, but it does not necessarily follow that mentality or intelligence bears a definite relation to accident occurrence or frequency. This has been supported by numerous studies. A commercial vehicle operator in Chicago determined the mentality of his drivers by intelligence tests and then studied the relation of accident frequency to intelligence over a period of months. He concluded that high intelligence was not essential to safe driving.

Unionism Does Not *Necessarily* Foreclose Economic Progress

"Are unions likely to reduce the return so seriously as to limit materially the capacity of the economy to expand? That is a possibility, but not a necessity, as the experience of the United Kingdom and Sweden shows. One may assert with confidence, I think, that even a large and powerful labor movement will be less harmful to expected returns on investments than the shift in power that has been going on since 1933. There is nothing fixed or inevitable about the way in which collective bargaining operates and the effects which it produces. I have in mind a case where union policy has reduced output per man-hour over 40 per cent in seven years. I have in mind also a steel mill where the president recently said that he would not sell his plan of union-management cooperation for a million dollars. Such are the possible extremes."

—Professor Sumner H. Slichter in an Address to the American Economic Association.

Signaling Will Help Now

A logical means for increasing utilization of existing locomotives, cars and tracks quickly is to eliminate unnecessary train delays; and this can be promoted by installing modern signaling facilities such as centralized traffic control, by means of which train movements are authorized by signal indications in lieu of time tables and train orders.

It is a problem, of course, to secure priorities for the materials required for a proposed C.T.C. installation; but experience shows it is not impossible to secure approval of projects having a definite transportation advantage. An important consideration is that the amounts of critical materials required for a C.T.C. project are small as compared with the amounts of these materials required to secure equivalent results in expediting traffic by other means. The allocation of scarce materials to a project is and should be based on the ability of the project to handle more war traffic.

The saving in train time that can be effected by a proposed C.T.C. installation can be determined accurately by redispatching the train movements on time-distance charts. On a single track line handling heavy traffic it has been shown in frequent studies that the installation of C.T.C. will save about one minute for each mile of line for every through freight train.

It is evident from the action taken on proposed C.T.C. projects on several roads that the authorities in Washington are well informed concerning the benefits to be secured. On the other hand, some roads which have territories on which the traffic has increased to the point of congestion have hesitated to investigate the possibilities of C.T.C. because they hope to struggle through for the duration of the war, with the anticipation that the conflict will terminate soon. While no one knows how much longer the war will continue, serious delays due to further increases in traffic caused by war activities seem certain. In the meantime, C.T.C. projects can be planned and installed within a few months, and even if the war should end within a year or two the C.T.C. will justify itself under normal volumes of traffic.

The Evolution of Tariff Publication

Haphazard methods of earlier days gradually systematized and uniform practices adopted to protect patrons and carriers

By George P. Wilson, G. P. Shaw and G. Lloyd Wilson*

THE evolution of freight tariff construction is of interest and importance not only to those who wish to survey in retrospect how railroads published their rates 50 years or more ago, but to those who are interested in solving present day tariff-publishing problems with the aid of past experience. Prior to the enactment of the Interstate Commerce Act in 1887, freight rates were furnished the agents of the railroads by the general offices on sheets of paper written with pen and ink. If several copies of the rate sheets were required, copying ink was used and rate sheets were run off in several copies by the wet-cloth, hand-press method familiar to veterans in railroad freight service.

No Uniformity in Practice

Usually when rate sheets were issued they provided for expiration dates as of December 31 of the year in which they were issued. Before the sheets were rewritten, the agents were canvassed by the general freight departments to ascertain the possibility of further movement of the traffic. If there was no likelihood of continuing movement of traffic the sheet was left to expire. If the rate was being used, the sheet was rewritten with the new expiration date of that year. There was no semblance of uniformity in furnishing the agents with the rate information. Rate sheets were often pasted over cancelled rate sheets until the pages were several sheets thick and furnished a hide-out for tiny paste roaches, so often associated with tariff files in a cruder and simpler age.

Many rates were furnished the agents by letter, telegraph or telephone and records were made in large books kept in the general offices.

This method of quoting and maintaining records of rates made railroad rates mysterious and often chaotic. The variance in classification or ratings by the different railroads, particularly at common points, added to the confusion. There were as many classifications in existence as there were railroads, sometimes more when different classifications were used on traffic moving in opposite directions, which led to endless confusion. Railroads were joined in pools and traffic associations for the control of transportation in local territories and to bring some measure of uniformity in classification and rate making.

Early Regulation Not Enforced

In the year 1886, the Cullom Committee of the United States Senate made a report which influenced Congress to pass the Act to Regulate Commerce. This report emphasized the abuses of unjust and unreasonable discrimination and undue preference and prejudice between shippers and communities, and the secrecy surrounding the making and dissemination of information with respect to railroad freight rates. The report complained of the abuses which had arisen in connection with the rate wars engaged in by the various railroads throughout the country, including special and secret rates to favored shippers and rebates in order to attract and hold traffic. The Act to Regulate Commerce of 1887 was enacted to correct these abuses—but little, if any, effort was made to enforce the regulations prescribed by the Act. Many of the regulations affecting rate making and tariff publications laid dormant throughout President Cleveland's first administration and throughout the administration of Benjamin Harrison.

During Mr. Cleveland's second administration, the Act to Regulate Commerce was amended in 1893 with a view to making it more stringent, but these amendments failed to have much effect upon the control of railroad freight making and tariff publication. The Act as amended contained a provision to the effect that "every common carrier, subject to the provisions of this Act shall print and keep open to public inspection schedules showing the rates and fares and charges for the transportation of passengers and property." It also provided that: "Copies for the use of the public shall be posted in two public and conspicuous places, in every depot, station or office of such carrier, in such form that they shall be accessible to the public and can be conveniently inspected."[1]

Public Files Not Well Kept

Many whose memories are long will remember that the carriers did comply with these regulations, but sometimes in such a manner as to destroy the purpose for which this section was intended. Tariff schedules were sometimes filed in the agents' desks or cupboards, and the public file copies were sometimes hung on hooks outside the station offices, where they were easily destroyed or mutilated. The shipping public, generally was not sufficiently interested to inspect carefully the rate schedules filed for their benefit, nor to insist upon more stringent regulations and compliance. Certain practices were allowed to creep in, many of which were indefensible from any reasonable point of view. These practices became so pronounced that by 1906, the Interstate Commerce Act was again revised and re-enacted, by the so-called Hepburn Act of 1906, which became effective in 1907. Under the provisions of this Act, the rate-making and tariff-publication provisions of Section 6 of the Interstate Commerce Act were extended and strengthened. The Sixth Section was amended, so as to make it mandatory on the part of the carriers to continue to file their tariff schedules for the use of the public in two public and conspicuous places. It was the intent of the Hepburn Act to make it obligatory on the

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[1] Interstate Commerce Act, Section 6.

part of the carriers to file at every station, depot or office not only the outbound tariffs, but the inbound tariffs applicable to or from these points.

One can readily appreciate what this would mean from a freight station operating standpoint. Each station was required to maintain a file of all inbound tariffs, which was virtually a duplication of the public tariff files. This was a heavy burden of expense to the carriers. The railroads believed that this expense was not warranted by benefits to shippers and consignees. An effort was made to secure a modification of the station filing requirements of the Interstate Commerce Act, under the power conferred by the Act upon the Commission to make such modification in the tariff filing requirements of the Act as it deemed necessary. The carriers petitioned the Commission to modify the Act so as to permit the filing at the stations of outbound schedules only. This modification was granted on June 2, 1908.

Files Required to Be Kept in Usable Shape

In addition to granting this privilege of filing only certain tariffs at stations, the order further specified that the carriers' agent or representative should be provided with facilities for keeping such file of schedules in ready reference order and in usable form. This order also provided that the carriers should require traveling auditors to check each station's or officer's files of tariffs at least once each six months, unless it employed one or more tariff inspectors to make such inspection or checks. It also provided that the carriers were required to maintain at certain strategic cities known as "public file points," throughout the United States, complete files of the tariff publications issued by each carrier in which the carrier is a party.[2] This meant that large carriers were required to maintain complete files of their tariffs at half dozen or more points. The Pennsylvania Railroad, for example, was required to maintain public files at 12 points: New York, Philadelphia, Baltimore, Pittsburgh, Buffalo, Cleveland, Cincinnati, Indianapolis, Louisville, St. Louis, Detroit and Chicago.

The Commission's order further provided that a notice must be displayed in every railroad waiting room, warehouse or office at which schedules are placed, with the provision that "complete public files of this company's tariffs is located at .....," then the points just mentioned are quoted.

I. C. C. Posting Order

On April 30, 1942, the Interstate Commerce Commission by its Posting Order No. 308, modified the regulations applicable to the posting of tariffs. Under the terms of this order, carriers are required to post at their stations only such tariffs as the agents require in the performance of their duties, and to maintain complete public tariff files at at least one point.

The order requires that the carriers may discontinue the posting of any tariff, excepting tariff indexes and lists of tariffs required by the Interstate Commerce Act and the Commission's order, at stations where investigation discloses that the tariff has not been used. Shippers may request the posting of any tariff which contains rates to or from any station or terminal or other charges applicable at that station, in which case the carriers are required to post the tariffs requested and notify the Interstate Commerce Commission.

It provides also that the carriers must provide and maintain at points designated by the I. C. C., or at least at one point, complete freight tariff files of all publications issued by them or to which they are parties. Notices showing the places at which public tariff files are located must be posted in each office or station.

The order directed the carriers to check up on the files of tariffs at the carrier's stations or offices at least once each twelve months by traveling auditors or inspectors.[3]

Prior to the Hepburn Act, the Commission was without adequate power to enforce its orders. This Act conferred upon the Commission the power to force the carriers to comply with the Commission's tariff regulations. This amendment to the Act and the Commission's tariff regulations marked the turning point in the issue of tariffs. The Commission prescribed rules and regulations and practices in connection with tariff publication and the railroad, complied with the regulations in earnest.

The requirements of the law respecting publication of tariffs are imposed in order that the person having freight to ship may ascertain by an inspection of the tariff schedules exactly what the cost to him for the transportation of his freight would be. The law has given him another and a very valuable right,—the right to know by an inspection of the same or other tariff schedules exactly what the cost to his competitor of the transportation of his competitor's property is.

How Posting Protects the Public

Prior to the Hepburn Act, the Interstate Commerce Act required only ten days' notice to be given the public for advances in rates, fares, or charges. No notice was required to be made of reductions in rates. This was abused by tariffs reducing rates going into effect at midnight one day and cancelled after the rates had served their purpose. These so-called "midnight tariffs" made it impossible for competitors to know in advance what tariff rates were to be issued on a suddenly reduced basis. It was not required to indicate in the tariff publications whether an increase or reduction had been made. Complaints from shippers reached the Commission from time to time to the effect that changes in rates were being made of which they were not cognizant until on and after the effective date. The amendments to the Interstate Commerce Act had the effect of overcoming this situation by providing that no changes whether increases, decreases or other changes should be made in rates, fares, or charges on less than 30 days' notice, and the Commission in its tariff regulations provided that all increases or reductions be indicated in the tariff publications.

Prior to the amendments to the Interstate Commerce Act and the Commission's tariff regulations, there was no uniformity of amendment of tariff contents. Rarely were two tariffs built alike. It was necessary for the user of the tariffs to examine them page by page to ascertain with certainty their contents. The Commission in its Tariff Circulars and supplements has prescribed the order in which matter shall appear in tariffs and supplements. It prescribes also the size of tariffs, the size of type, the form of title page, and the contents of the tariff. This brings about some measure of uniformity. The tariffs as they are published today are constructed in accordance with the lay-out prescribed by the Interstate Commerce Commission in its Tariff Circular.

The present regulations prescribed by the Commission

[2] Interstate Commerce Commission Tariff Regulations.

[3] Interstate Commerce Commission, Posting Order No. 308, April 30, 1942.

in Tariff Circular No. 20 are the results of a number of conferences between the carriers, the shippers and the Commission. Some of the rules required considerable time to formulate, because of the vast and complex problem the Commission was attempting to control. These changes were based on the numerous formal and informal cases before the Commission. They were designated principally to obviate the necessity of appealing to the Commission for a correct interpretation of tariffs. It is impracticable to discuss all of the rules of the Commission's tariff circular but some of the most important rules may be mentioned briefly.

Alphabetical Lists of Stations.—The Commission requires that an alphabetical list of origin and destination stations be shown in each tariff.[4] To accomplish this some of the larger railroads were obliged to publish thousands of pages of tariff material at great expense. The Pennsylvania Railroad published approximately 10,000 pages of station list matter at a cost of approximately $75,000. While the initial cost was great, the railroads concede that the money was well spent. It served as a means of expediting the handling of rate matters by the users of the tariffs. Before these lists were included in the tariffs with the rates or in separate tariffs, it was always necessary to refer to some other document to find the name of the station in which the user of the tariff was interested. Many of the tariffs were constructed according to a station number plan, and other tariffs had to be consulted to locate the points of origin and destination. This follows the policy of the Commission as expressed in its tariff regulations that a tariff should be as complete as possible, avoiding reference to other tariffs in order to determine its application. The Commission has striven in its tariff regulations to achieve simplicity and convenience to the users.

Routing.—The routing provisions of the Tariff Circular provide that all tariffs contain specific routing or a statement to the effect that the rates apply via routes of carriers shown as parties to the tariff.[5] The carriers considered this requirement the most expensive as far as printing is concerned. It cost some of the larger railroads approximately $100,000 to assemble and print four routing guides, operating between points in Official Classification territory. The routing guides of the Pennsylvania Railroad, for example, were consolidated into one issue for the entire system. All of their tariffs either contain specific routing or reference made to the routing guide. There has also been published by the Trunk Line and Central Freight Associations, gateway routing guides to cover inter-territorial traffic. There is now under construction a gateway routing guide to take care of the inter-territorial traffic between Trunk Line and New England Territories. This guide will also contain westbound routing from Central Freight Association Territory on inter-territorial traffic. When this routing guide is published, the carriers operating within Official Classification Territory will be able to handle all their traffic via specified routes.

Minimum Carload Weights. — Minimum carload weights must be shown in connection with each commodity.[6] Heretofore it was customary to permit the commodity rate to be governed by the Official Classification for the minimum weight. This is another step toward making a rate tariff as near complete in itself as possible. The only exception to this rule is in the case of commodities that come under generic description in the Classification, such as grain, grain products, lumber and forest products, iron and steel, and other commodity groups where the minimum weight is shown in connection with each commodity in the individual lists. The rate tariffs quite generally refer to the separate list for the articles as well as the minimum weights.

Switching and Absorption Tariff Arrangements.—The Commission in its Tariff Circular prescribes the manner in which switching and absorption tariffs are to be published. In this rule, the Commission requires that a tariff publishing switching rates must clearly define the switching limits and that all switching arrangements be published in one issue, with the exception of those applicable at the more important points, such as the great metropolitan centers.[7] The rule provides also that when absorption arrangements are published, the tariff to provide for the specific amount the switching line is to absorb. The railroads have complied with this rule by issuing tariffs for the absorption of the switching charges when applying at points in the territories served. The same division is made for switching tariffs. In these tariffs, the carriers have provided for the charges of the connecting line that are absorbed and have also provided for the designation of the switching limits at each point.

Application of Class and Commodity Rates.—The Commission prescribed in its Tariff Circular regulations governing the application of commodity rates vs. class rates.[8] In applying this rule, the publication of a local commodity rate displaces a proportional or reshipping class rate between the same points via the same routes, whether higher or lower. The publication of an import or export class rate, however, takes precedence over a domestic commodity rate whether higher or lower. In this rule, the Commission prescribes the manner in which carriers are to publish exceptions to the Classification, which is, to follow the general arrangement of the Classification as closely as possible. At the present time, there are three tariffs of Exceptions to the Classification for Official Classification Territory; one by Agent W. E. Curlett of the Trunk Line Freight Association, covering territory Pittsburgh, Erie, Buffalo and East; one by Agent B. T. Jones of the Central Freight Association, covering C. F. A. Territory, and the other by Agent I. N. Doe of the New England Freight Association, covering New England Territory. Prior to the consolidation of Agent Curlett's exceptions to the Classification tariff, each individual road in Trunk Line Territory published its own exceptions to the Classification tariff. Agent Jones has published one exceptions tariff or exception sheet for C. F. A. lines for a number of years.

Intermediate Application of Rates.—It is the opinion of many of the Commission's tariff experts that the revised intermediate point rule is the most important change in Tariff Circular 20.[9] Intermediate point clauses have been productive of more litigation before the Commission than any other rule. In addition to this, the Commission has been called upon in many informal cases to pass upon these rules. In the past, there was little or no uniformity in the publication of rules governing the intermediate application of rates. Carriers often published individual rules to suit their own needs or preferences. In cases coming before the Commission these rules were often ambiguous and sometimes impossible of practical interpretation. One person's guess was as good as another, if not better. The Commission took cognizance of these complaints. As a

[4] I. C. C. Tariff Circular No. 20, Rule 4 (d).
[5] I. C. C. Tariff Circular No. 20, Rule 4 (k).
[6] I. C. C. Tariff Circular No. 20, Rule 6 (a).
[7] I. C. C. Tariff Circular No. 20, Rule 10.
[8] I. C. C. Tariff Circular No. 20, Rule 16.
[9] I. C. C. Tariff Circular No. 20, Rule 27.

result of the Commission's investigation a uniform intermediate rule was prescribed. The intermediate point rule is limited to those cases where specific routing is published in compliance with Rule 4 (k) of Tariff Circular No. 20.

Prior to the publication of the intermediate point rule, the Commission prescribed a rule which contained a promise that the carrier would publish the rates from or to intermediate points equal to those in effect from or to more distant points. The principal purpose of this rule was to comply with the Fourth Section of the Act and to relieve the carriers from posting tariffs at the intermediate points. The establishment of the new intermediate point rule appears to work to the benefit of all concerned. Shippers and consignees now have available at once the rates to or from intermediate points that ordinarily were published on one day's notice under Rule 77 of the Commission's Tariff Circular before its amendment.

State Commission Tariff Publishing Regulations

The regulations of the Interstate Commerce Commission respecting tariff publication have been adopted quite generally by the various state regulatory commissions. An exception should be noted with respect to the requirements governing notice of the effective dates of the tariffs or supplements. Most states require 30 days' notice on reductions. Increases are permitted to go into effect generally on 30 days' notice after the increases have been advertised. A few Commissions permit the filing of all adjustments on ten days' notice. Delaware is the only state in the United States that does not have a regulatory commission. In this state, rates are made effective immediately through what are termed "rate orders." These are generally picked up in tariffs that are filed with the Interstate Commerce Commission. Other states have regulatory commissions, but relatively less stringent tariff publishing requirements than the great majority of states.

Railroads have transportation to sell. It is incumbent upon the carriers to publish the charges for such transportation under the rules prescribed by the Interstate Commerce Commission in interstate commerce and with state commissions in intrastate commerce. It is the Commission's aim, and the objective of the carriers to place in the users' hands tariffs which make clear the exact amount charged on every shipment. The carriers take pride in publishing tariffs which, in addition to complying with the rules of the Interstate Commerce Commission and of the state commissions, are built so as to prevent an undue burden from being placed upon the users in determining the proper charges to be applied and the proper routes to be used. Tariff of rates are the price lists of the railroads for transporting articles of commerce, similar in many respects to the price list or catalogs of the shippers, but differing from price lists in that the rates and charges and rules and regulations are binding upon the carriers and upon those who use the rates, charges, rules or regulations contained in them.

The publication, posting and filing of the tariffs as provided for by law puts all parties officially on notice as to what the carriers' rates and charges are, and the rules and regulations governing the transportation of the goods. The carriers may not charge any more or any less than the rates provided for in the tariffs, and shippers and consignees may not pay either more or less without making themselves liable for violations of the law. Tariffs mean what they say, and are interpreted according to the same rules that govern the interpretation of legal instruments. It is not what the carriers which compiled the tariffs intended to state in the tariffs, nor what shippers or consignees interpret them to say that governs, but what the tariff correctly interpreted according to the rules of interpretation provide. If the rules were otherwise it would leave open the opportunity to rebating, discrimination and preference in violation of the law.

Tariff Bureau Organization

A typical railroad tariff bureau is divided into two sections, a compiling section and a miscellaneous and distribution section. When changes in rates have been approved by one of the freight traffic associations, the general freight department of each carrier having jurisdiction over the territory issues an instruction sheet to the tariff bureau to publish the rates. Upon receipt of these instructions, they are registered and assigned to the clerk in charge of the tariff in which the rate is to be published. If no special dates have been sent by the association for the rates to become effective, the proposed rates are set aside until other changes have been received to be included in the same tariffs. When a sufficient volume of changes have been accumulated, a supplement is prepared. Some railroads print tariffs or supplements if over four pages in size and prepare tariffs if four pages or less by some other process, such as planographing or mimeographing or other process to reduce printing expenses considerably. Some carriers publish many or all of their tariffs regardless of size by processes other than printing.

In distributing tariffs, shippers are assigned numbers and a box in the tariff rack is assigned to each shipper. This same arrangement is used for the carriers' agents. The number assigned to each railroad agent is that shown in the station list of each carrier. When the supply of tariffs or suplements is received from the publisher, distribution is made through these racks according to the listing on the mailing list. These racks are emptied and the tariffs or supplements are mailed to all interested persons on the mailing list.

The annual cost of printing railroad tariffs is said to be $4,000,000 a year in addition to the compilation and mailing expenses. One large Eastern railroad has 11,200 shippers receiving one or more of its tariffs. The postage cost for mailing these tariffs to shippers is approximately $12,000 a year. The volume of tariff matter distributed annually including agency and foreign lines tariff is aproximately 10,000,000 copies a year. The cost of printing this carrier's own issues and purchase of agency issues for 1941 was $232,029.51, and its annual costs over the past decade have ranged from a quarter to nearly three quarters of a million dollars each year. This large expenditure for tariffs is made for convenience of carriers in rating traffic and of shippers and consignees in ascertaining the charges. It is both a traffic and a good will expense to the carriers which appears in freight charges as an item of operating expense.

—

Costs Must Be Lowered.—In the kind of economic order which we may expect after the war, costs of production will be of vital importance in determining which businesses will survive and be successful. Efforts should now and continuously be concentrated on reduction of costs of production and distribution. Now is the time to check all departments of the business to see whether there are any leaks, or undesirable practices, or lame duck products that are being continued because of custom or inertia, which might be eliminated.—*Dr. N. R. Whitney, Economist, Procter & Gamble Co.*

Spring Nest Capacity

By C. J. Holland*

A SPRING is a yielding member that is installed between the running gear and the body of a vehicle, because experience has demonstrated that a cushioning member is absolutely necessary to minimize the shocks due to unevenness in the roadway.

As the speed of the vehicle increases, the shock intensity increases; and therefore, greater shock-absorbing capacity should also be had. However, in the case of railroad freight cars, which carry loads from the empty car to the fully loaded car, the ideal spring condition cannot be provided, because what is ideal for the fully loaded car is altogether too stiff for the empty car. What we can do is to be sure the spring shock capacity is sufficient for the fully loaded car and yet as soft as possible for the empty car.

It is obvious that bolster spring groups are now taking extra punishment because of the heavier loads cars are carrying, the higher speeds at which they move, and also because it is impossible to keep all tracks up to normal standards, due to the increased movement over the rails and to restrictions in the supply of replacement rails and accessories. Under these conditions, the harmonic action of bolster spring groups is accentuated and bouncing often builds up and accumulates until it gets above the capacity of new spring groups.

There is no A. A. R. rule with regard to removing springs, but it is obvious that broken springs should be replaced. It is also obvious that if there are evidences of springs being driven solid, the reasons therefor should be investigated. The reason might be: (1) overloading, (2) permanent set in some of the springs, (3) lack of snubber, or shock capacity in the group.

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Under an empty car, the 8¼-in. springs are supposed to take a deflection of about ¼ in., which means that the distance between the top and bottom plate should be about 8 in., at which point the remaining deflection or compression would be 1 7/16 in. So if any of the spring in a group have taken sufficient permanent set to decrease cushioning capacity unduly, this fact can be discovered by measuring the distance between the top and bottom spring plates.

If the distance between the spring plate under the empty car is less than 8 in., one or more springs have probably taken a permanent set.

If the car is loaded to capacity, the distance between the spring plates of the nest should be 7¼ in., at which point the remaining deflection or compression is only 1 1/16 in. If this distance measures only 6¾ in., there is only 3/16 deflection or compression remaining—and the condition approximates no springs at all.

The moral is plain. A limit in the permanent set of spring groups should be established beyond which point the springs should be taken out, and those having a permanent set should be replaced. This does not mean that all such springs must be scrapped; many of them can be reconditioned by the spring manufacturers, thus conserving materials and preventing waste.

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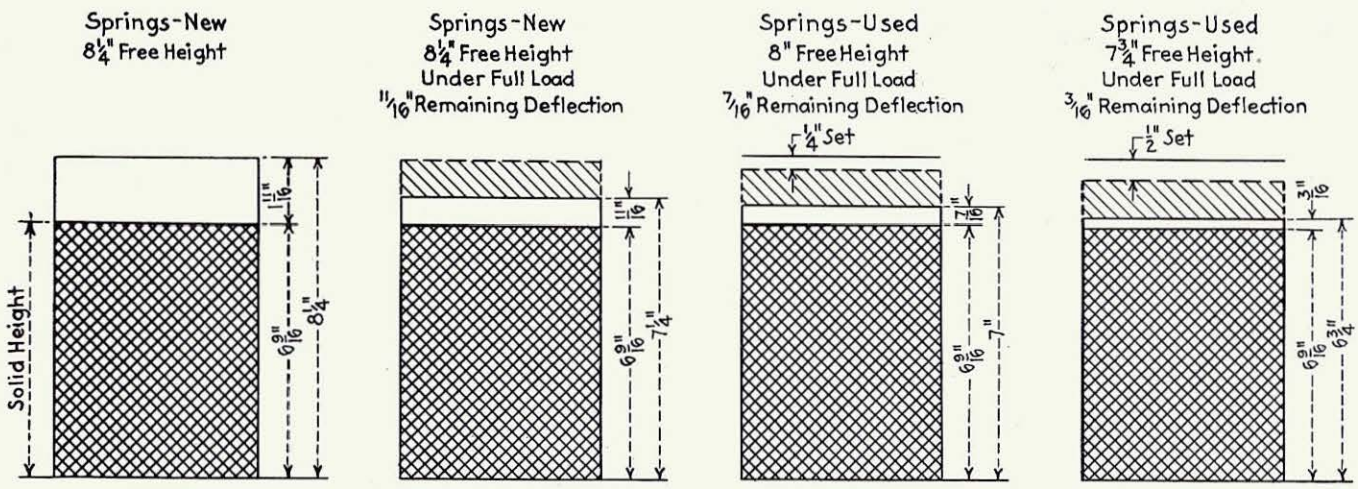

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Blackout and

By W. G. Darley

General Electric Company
Nela Park, Ohio

Good Dock or Pier Lighting Not Only Provides Protection but Makes for Increased Safety and Greater Efficiency Among Employees

KNOWING that darkness is the saboteur's greatest ally, it follows that light is the railroads' first line of defense. It is not intended to infer that light, in itself, is sufficient. It is not. It may deter intruders from entering an area, because it makes them visible if they do, but lighting should be used with other measures of protection, such as guards, fences, alarms, watch dogs, etc.

The lighting protection to be provided any property or structure depends to a large extent upon its vulnerability and accessibility. Locations along railroad tracks, near woods or underbrush, along highways, on dead-end streets, near steep banks, beside piled materials, close to bridges, or alongside docks and piers, are particularly vulnerable. Other areas that need particular attention from the standpoint of lighting are entrances to buildings and yards, spaces between buildings, and within yards, alleys and parking areas. Some general rules to follow in planning any protective lighting installations are as follows:

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Railroad bridges are particularly susceptible to attack during wartime because their destruction may interfere seriously with the rapid transportation of vital supplies for our armed forces. No amount of light will prevent a saboteur from attacking a bridge if it is not well guarded. On the other hand, guards without lights are seriously handicapped and cannot do an effective job. The important places requiring illumination are the approaches, anchoring piers, supporting piers, and the water for at least 300 ft. from the bridge. Coverage should be provided both up-stream and down-stream, so that boats or other floating objects can be detected in time to prevent damage.

Underbrush should be cleared away from the immediate neighborhood of bridge approaches to remove places of concealment. Both banks should be closely scrutinized for a considerable distance from the bridge for probable rallying points from which to launch an attack, and these points should be kept under surveillance by periodically directing a searchlight beam on them.

In general, floodlighting is the easiest way to light a bridge. Groups of projectors are located on both banks of the stream on the up-stream and down-stream sides of the bridge, and are directed on the piers and surrounding water. In addition, however, a searchlight, under the control of a guard, should be provided to pick up any suspicious objects or movements (Fig. 1).

Piers and Docks

Piers and docks tempt the saboteur, particularly when they are important to the trans-shipment of war materials and are burdened with rolling stock. Therefore, it is often essential to afford them protective lighting. However, the lighting afforded must be so planned that direct glare from the light source of reflected glare from the water does not interfere with navigation. To avoid such interference, local lighting is preferred to floodlighting unless the floodlights can be placed high enough or at a suitable location where glare will not present a problem.

In some sections of the country, the authorities require lighting beneath the pier to prevent small boats from harboring there in the darkness (Fig. 2). Small piers can be so lighted with vapor-proof units located under the floor; larger piers may use regular floodlights or the 150-watt PAR-38 projector flood lamps. The units are usually mounted at the water end of the pier and directed toward the land end so that inspection can be made readily by patrol boats. If the guards are to be on

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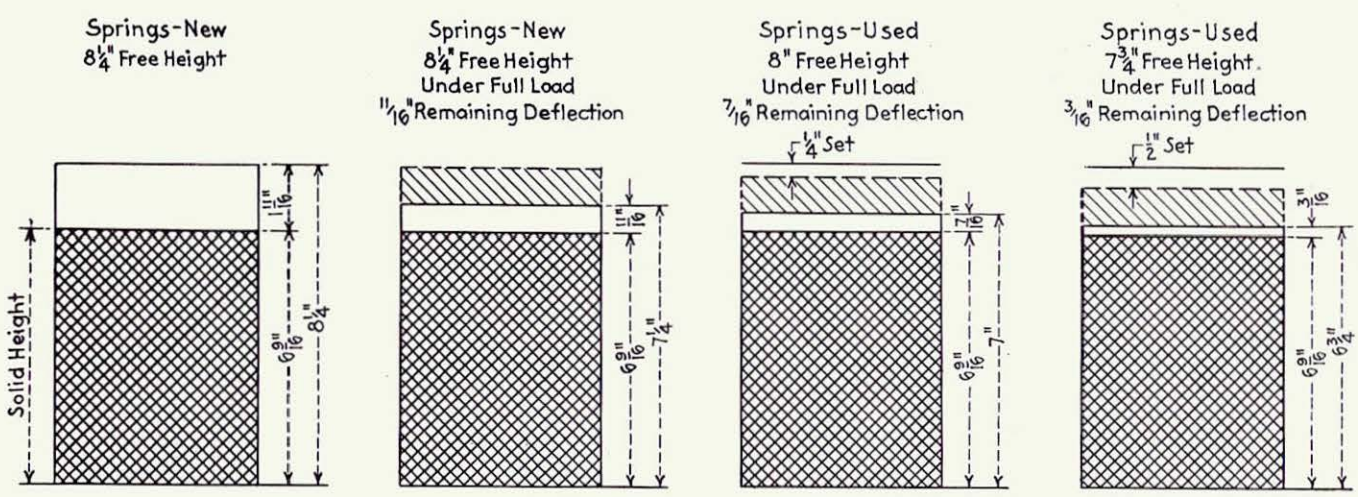

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In some sections of the country, the authorities require lighting beneath the pier to prevent small boats from harboring there in the darkness (Fig. 2). Small piers can be so lighted with vapor-proof units located under the floor; larger piers may use regular floodlights or the 150-watt PAR-38 projector flood lamps. The units are usually mounted at the water end of the pier and directed toward the land end so that inspection can be made readily by patrol boats. If the guards are to be on

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Protective Lighting

Means to deter saboteurs from important railway structures and to foil the attacks of enemy airmen*

shore, the projectors should be mounted at the shore end, pointing outward. In critical areas, a searchlight to sweep the water periodically helps to detect suspicious craft and to avoid the danger of attack.

Boundary Fences

Where critical areas, yards and structures can be fenced, the lighting of the fences and the areas immediately adjacent to them is usually the first consideration in a protective lighting program. Illumination along the fence lines should be fairly uniform. The points midway between units represent the most vulnerable spots, and the illumination here, therefore, both inside and outside the fence line, should be such as to make it impossible for an intruder to conceal himself, even though one of the lighting units may be out.

It is generally agreed that good uniform illuminuation for a distance of at least 50 ft. outside the fence line is necessary for satisfactory protection. It is also well to paint the fence white, or at least to white wash it, as an intruder is generally more visible against a light background. If the fence is of wire netting, it should likewise be painted white, and since one can see through it, advantage should be taken of this fact to increase the guard's area of view.

Fence lighting with floodlights can be glaring to traffic and to residents. Where this condition is liable to prevail, the fence can be lighted with street lighting or with industrial types of units.

Property Entrances

The effective lighting of property entrances is very important. Lighting should be such that anyone approaching can be readily seen and scrutinized. It is advisable to provide light for an appreciable distance about the entrance so that if an intruder should rush by the guards, he would not immediately be lost to view. Floodlighting projectors on the roofs of nearby buildings can furnish effective supplementary lighting around entrances.

In addition to the general lighting provided at property entrances, it is highly desirable to provide supplementary emergency lighting by means of highpowered searchlights. These can be mounted on the roof of a guard tower or of some suitably located building and manually controlled from within. To be most effective as emergency sources, these searchlights should be served by a separate source of electrical power.

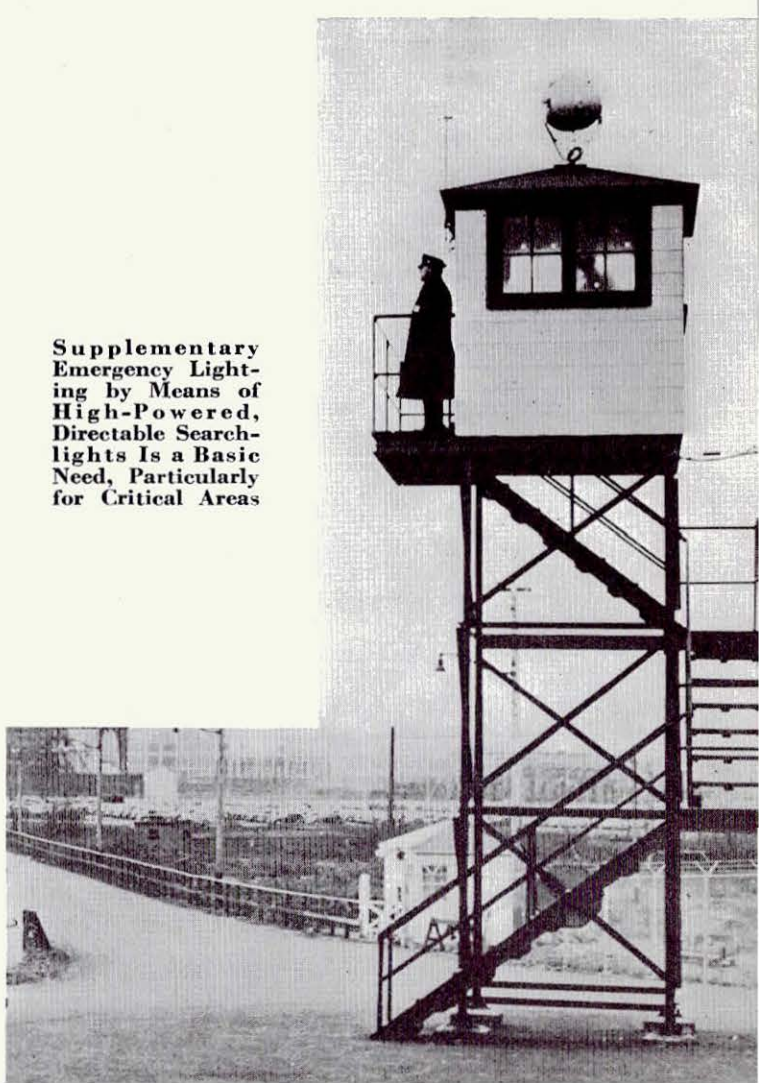
Yard and Sub-station Lighting

Where it is necessary to protect buildings, apparatus or stores of important material, yard lighting must be used. This may be either in addition to or in place of fence lighting. The buildings or facilities to be protected need not be high-lighted; in fact, it is more desirable to illuminate adequately the area around them. This can often be accomplished by locating floodlights on the structures or facilities themselves, and lighting the area around them (Fig. 3).

Careful placement and direction of the floodlights are necessary to insure that the intruder, and not the guard, is subjected to glare. Care must also be taken to illuminate dangerous shadow areas which would provide hiding places (Fig. 4). These requirements are usually met by means of multi-directional lighting. The necessary degree of uniformity in coverage is usually accomplished by a suitable degree of beam overlapping.

Floodlights are admirably suited to this type of lighting since they are available in a wide range of sizes with a variety of beam spreads, which permit the light to be tailored to meet almost any requirements. Lamps of the reflector type (projector flood and spot) are also available for small areas within 200 ft. of buildings.

Structures and areas located in congested districts with residents nearby have experienced complaints that the light necessary for protection shines in bedroom windows. Because these homes and yards provide excellent places of concealment, it is important that the area be lighted so that approaching prowlers can be seen easily. A good solution to this problem is to use the Mazda projector



Supplementary Emergency Lighting by Means of High-Powered, Directable Searchlights Is a Basic Need, Particularly for Critical Areas

flood or spot lamps, hung vertically from the roof or upper windows of the structures to be protected on about 20 to 30-ft. centers (Fig. 5). These provide a bright ring of light around the plant without much annoying stray light. Even the small amount of normal spill light from these lamps can be screened out by using the standard spill ring shields which are available for this purpose.

Where material is stored in outlying sections of a yard, it might be quite difficult to locate the projectors on buildings and thus light around this stored material without having objectionable shadows. In such cases it may be necessary to place units on a pole located at a strategic point. In many instances, of course, railroad yards are fitted with natural locations for such lighting.

Sub-stations are very apt to be singled out for attack. In the case of these facilities, floodlighting is required for an appreciable area around the fence, in addition to the inside maintenance lighting, where this is provided. Here it is very important to keep the undergrowth trimmed well back. This combination makes it easier to detect and deal with prowlers.

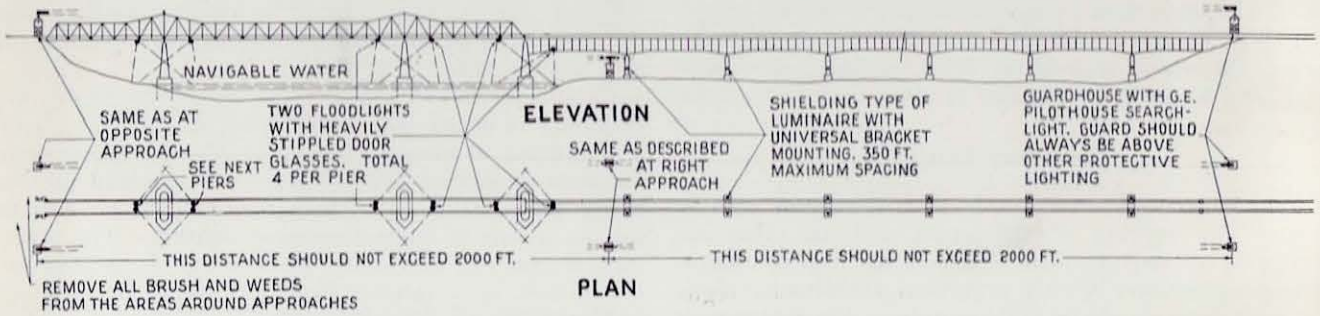

NAVIGABLE WATER
SAME AS AT OPPOSITE APPROACH
SEE NEXT PIERS
TWO FLOODLIGHTS WITH HEAVILY STIPPLED DOOR GLASSES. TOTAL 4 PER PIER
ELEVATION
SAME AS DESCRIBED AT RIGHT APPROACH
SHIELDING TYPE OF LUMINAIRE WITH UNIVERSAL BRACKET MOUNTING. 350 FT. MAXIMUM SPACING
GUARDHOUSE WITH G.E. PILOTHOUSE SEARCHLIGHT. GUARD SHOULD ALWAYS BE ABOVE OTHER PROTECTIVE LIGHTING
THIS DISTANCE SHOULD NOT EXCEED 2000 FT.
THIS DISTANCE SHOULD NOT EXCEED 2000 FT.
REMOVE ALL BRUSH AND WEEDS FROM THE AREAS AROUND APPROACHES
PLAN

Figure 1—Bridge Approaches, All Supporting Piers, and the Water For at Least 300 Ft. from the Bridge, Need the Protection Afforded By Light. Searchlights Under Control of the Guards Should Be Provided to Allow for the Scrutiny of Any Suspicious Object or Movement

Blackout Lighting

A second phase of special railroad lighting in wartime is blackout lighting. Basically, this means that any brightness, such as direct from a light source, reflected brightness from an illuminated surface, or brightness from some process, must not be visible to an experienced dark-adapted aerial observer under the most favorable conditions.

This matter of blackout lighting has been given considerable study, and the War Department is issuing specifications as rapidly as possible on specific fields. There is a report on "Blackout of Railroads" now in the process of preparation. The specifications will be based upon tests which have been conducted during the last years in yards and army camps throughout the country. These specifications will cover specifically and in detail the treatment necessary to blackout all railroad properties, including fixed property, rolling stock, signals, hand lanterns, etc.

Air raids and blackouts are almost always mentioned in the same breath, and yet, bombers can fly by day as well as by night, particularly where aerial defense is weak. Thus, while air raid precautions should be taken as soon as the danger of air raids is anticipated, or before, blackout (lighting) precautions need be considered for structures only where light is needed during the hours of darkness.

Naturally, some areas are more likely to be bombed than others. In fact, there are two distinct types of air-raid expectancy. One is the threat of a raid every night for an indefinite number of hours, as is the case in England. The other is the threat of a bombing any night, but not often, and for limited periods, as is anticipated at this time in this country. This second type may be subdivided into three groups: (1) Where the threat of bombing is very real or where the expectancy of air raids is highest; (2) where there is a high expectancy; and (3) where there is low expectancy.

The situation at present is not entirely clarified, and it appears, in general, that most cities in the first and second groups are preparing for air-raids. In many of these instances, local ordinances have established rules and regulations governing blackout lighting, with which it has been necessary for railway structures to comply. It is conceivable that, eventually, conformance with the national blackout specifications will be required only for structures within areas designated by the proper military authority.

Interior Blackouts

In building interiors, blackout requirements may be met by one or more of the three following methods:

(A)—All light can be extinguished;

(B)—The illumination can be reduced; or

(C)—Windows, exterior doors and other openings through which light might escape can be obscured.

Obviously, where there is a low air-raid expectancy, the simplest procedure is merely to be able to extinguish all lights. This method requires that all light visible from the outside (except approved indoor blackout lighting units, which will be discussed later, and low-intensity red exit lights), be extinguished within five minutes after the official blackout signal is given, and remain extin-

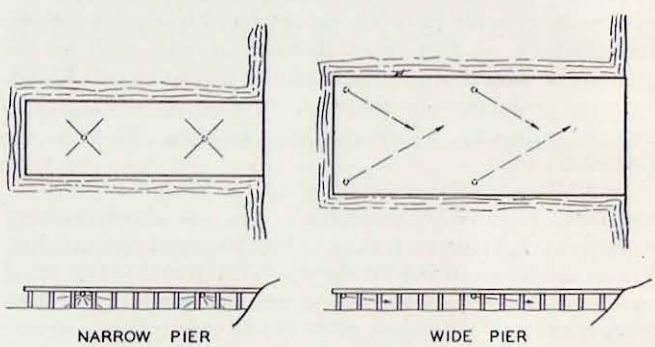


Figure 2—Protective Lighting for Small Piers Can Consist of Vapor-Proof Lighting Units Under the Floors; Larger Piers May Use Regular Floodlights

guished for the duration of the blackout period. It would seem that large areas of the country would not be justified in going much further than this at this time. Unquestionably, this picture would be changed if any of our cities should be subjected to bombing.

Those adopting the temporary precaution method, however, must always keep before them the fact that they must achieve a blackout which is just as satisfactory during an alarm as those adopting the continuous full-blackout measures. This is the first requirement, and all other considerations must be subordinated to it. Even in areas where temporary precautions are considered suitable for the majority of structures, there will be some essential operations, such as dispatching, which should have the protection afforded by special blackout lighting, or by obscuration.

Controlled Illumination

The second method, and probably of widest application to railway structures in areas which are taking blackout precautions, consists of extinguishing the regular lighting and providing a small amount of controlled illumination sufficient to permit reasonable facility of movement without necessitating complete obscuration of units (such as these lamps) in buildings are given below:

(a) In any one room, only one unit is permitted to each 200 sq. ft. of floor area or fraction thereof.

(b) Units shall be spaced not less than 10 ft. apart in any direction.

(c) In corridors, one row of units is permitted at a spacing of not less than 15 ft.

(d) Units shall be placed at least 3 ft. from any window, exterior door or other opening.

(e) Units shall not be pointed toward any window, exterior door or other opening.

(f) When openings are covered in the usual manner with drawn window shades, drapes or blinds, or even with one thickness of newspaper, or whenever each unit has a shade which screens it from outside observation above the horizontal, units may be installed at any height.

(g) When exterior openings are not covered, and when units are not otherwise shaded from outside observations above the horizontal, blackout units shall be located above the top of such openings.

Blacking Out of Doors and Windows

The third (and most complete and effective) method of providing a blackout is by obscuration. This consists of making all windows, doors and other openings completely light-tight, and then providing full operational lighting inside. This procedure has been adopted particularly by plants in which war production activities are carried on.

Light locks should be provided for window and doors, and for any other openings normally used for providing light or ventilation. A light lock consists essentially of a tunnel or passage having dark walls, ceilings and floor, so constructed that no direct light source or light reflected from the source is visible from the exterior at any time. Any light source inside the building near the interior entrance of the lock should be shielded to screen direct light from entering the lock.

The obscuration of windows may be accomplished by means of paint, adhesive coverings, screens, shutters, light locks, or other approved means. Obscuration by paint alone has two disadvantages: First, that the glass may be shattered by a blast concussion and the lighted

(*Continued on page 1034*)

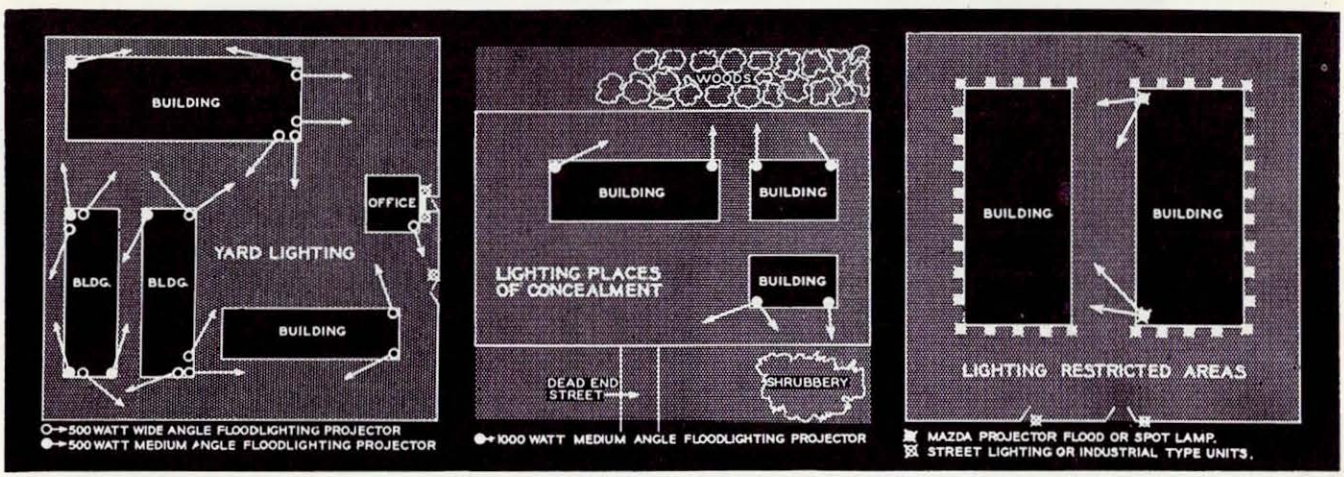


Fig. 3 **Fig. 4** **Fig. 5**

Various Protective Lighting Arrangements Recommended

Figure 3—It is more desirable to illuminate adequately the area around buildings than to light the building exteriors. Figure 4—Dangerous shadow areas and possible lanes of attack, both within and without the protected area, must be illuminated. Figure 5—For yard lighting in residential districts, units such as the Mazda projector flood or spot lamps can be used to provide a bright ring of light around the plant without much annoying stray light.

doors and windows. This method seems particularly appropriate where crowds might be gathered.

The War Department's specifications for the Blackout of Buildings contain general requirements for indoor blackout lighting units, and the statement is made that reduced illumination, without complete obscuration, shall be permitted only when the indoor lighting units used conform to these requirements. The requirements are:

Initial lumens—minimum 1½, maximum 3.

Initial candlepower at any angle—maximum 1.

Light distribution—most of light in one hemisphere; in the other hemisphere, not more than 0.15 lumen.

Color—orange or orange-red.

A tungsten-filament lamp has been developed which meets these specifications. This is a 14-watt lamp. However, at present, for railroads to obtain these blackout lamps, it appears necessary to have or secure specific authorization from the director general of operations of the War Production Board.

The only present authorized use for indoor blackout

Air Cargo Economically Limited

Handling Express

Courtesy United Air Lines

Society of Automotive Engineers discusses economic factors circumscribing usefulness of air freight

ECONOMIC problems of operation and inability to overcome mechanical limitations in the transportation of freight by airplane will restrict the extent to which the carriage of air cargo will compete with the railroads—such was the consensus of the discussion at an air-cargo engineering meeting of the Society of Automotive Engineers at Chicago on December 8-9. The session was held under the auspices of the Chicago section of S. A. E., with the co-operation of the S. A. E. Air-craft Activity, the Air Transport Association and the Aeronautical Chamber of Commerce. Speakers included representatives of these organizations, the airlines, the Railway Express Agency, the Naval Air Transportation Service, the Army Air Force and the Civil Aeronautics Authority.

Not Suited to Low-Value-Density Traffic

"It is our belief," said J. V. Sheehan, Manager, Industrial division, Lockheed Aircraft Corporation, "that the airplane potential in the over-all transportation scheme is of a supplemental nature and not to replace the railroads or the steamships. And the airplane's claim to carry its part of the total tonnage is too sound to be jeopardized by wild claims that it is ready to haul heavy commodities, such as products of the forests and mines, across the face of the globe in times of peace. It is expected that certain refinements of our present engine, propeller, and aerodynamic designs will be developed for more efficient airplane performance, thereby lessening operating costs, but these factors are limited, and it would not be safe to assume that they would bring the operating costs of aircraft down to compete with the lower classes of materials.

"Let us consider, for example, l. c. l. freight, the return from which averages about 4 cents a ton-mile. About 18 million tons of this traffic were carried on the Class I railroads in 1941. While this is only 1½ per cent of the total freight tonnage carried, it is 2,000 times the total air express carried by all of the domestic airlines last year. If we had an airplane with a payload of 16 tons, which cruised at 250 miles an hour, and could fly 3,650 hours per year, it would require 620 such planes to move these 18 million tons of l. c. l. freight. This, of course, does not take into account the rail express or mail traffic. Therefore, we should concern ourselves at present with the planning of equipment on which the cost of operation would permit us to compete for higher classes of surface freight, express and mail.

Transoceanic Operation Envisioned

"An analysis of a market survey of the domestic operators which we made recently indicates that 83 per cent of the carriers believe that cargo-carrying facilities should be considered a part of future passenger airplane design for domestic trunk line and primary connecting operations in the post-war period. The war has forced us

to extend the scope of our markets and has advanced our research and practical knowledge some ten years. Consequently, many of these operators have expanded their conception of future activities to include trans-oceanic operations, and a number of the carriers have added that the process of rehabilitation and reconstruction in foreign countries and the re-establishment of those markets after the war would require a special cargo airplane, in view of the necessity for speed in the delivery of essential foods, particularly perishable foods, and goods in great quantities suitable for airplane transportation. Although the surface agencies can render a service at a lesser cost, the speed element in the transport of such commodities would justify the premium involved by such operation.

"Further analysis of this survey showed also that a combination passenger and cargo plane for the so-called off-line or feeder line service was wanted. From both the operators' and manufacturers' viewpoints, this would seem to be a logical step in the development of this service, and it is possible that this plane could be used also for transportation inland in the isolated or normally inaccessible areas in foreign countries.

"As we have pointed out, the operators desire, in the absence of any experience index in the field of solely air cargo transportation, a combination passenger-cargo plane for domestic service. Although we can understand their reasoning in arriving at this conclusion, from studies which we have made, we are not entirely in agreement with this thinking for a combination type airplane in certain weight classifications. Rather, we believe that in order to attain the greatest efficiency (that is, the lowest ton-mile cost) we should use the sharpest tool to accomplish the particular job. And in this case we believe that ultimately the sharpest tool must be the exclusive cargo plane. Although we agree that a combination passenger and cargo plane would have many of the features which go to make up either low seat-mile cost or low ton-mile cost, we nevertheless believe that the basic advantages to be gained in efficient cargo operation can best be obtained in the preliminary design of an exclusively cargo plane.

An Opinion From the Express Agency

"Notwithstanding the statements made in the hope of headlines by publicity seekers who have found in air cargo a new sounding board, the nature of most of the tonnage now moved is such there is little probability of much of it ever being carried by domestic airlines within the United States," said C. G. Peterson, Chief Engineer, Railway Express Agency. "The ton-miles carried by rail in 1941 were an all-time high, of which products of agriculture constituted 9 per cent; products of forests, 6.1 per cent; animals and products, 1.8 per cent; manufactured goods and miscellaneous, 27.7 per cent; products of mines, 53.9 per cent; and l. c. l., 1.5 per cent. In 1940, one sixth of the freight revenues of the American railroads was produced by bituminous coal. In 1941 the average revenue per ton-mile of freight carried on the railroads was 9.36 mills, or less than 1 cent.

"Practically all full carload rail shipments are loaded and unloaded by the patron and at the patron's expense. It is impossible to think of air carriers setting out planes for shippers to load with their untrained employees, or leaving planes standing for unloading when it suits the consignee's convenience. In 1940 the average haul of all revenue freight on all railroads was 351 miles. For each loaded freight car moved 100 miles in 1941, the railroads hauled an empty freight car 64 miles, which indicates that the load factor could not be more than 61 per cent. In 1940 the average load per car for all commodities was 37.6 tons; but in a breakdown of 17 commodities, only 3 were above this, bituminous coal, wheat, and corn. In 1940, the railroads carried over 960,000 carloads of fruits and vegetables, a large part under refrigeration.

"A considerable part of the perishable movement was heated to prevent freezing. Scanning the large commodity breakdowns of rail freight traffic, it is apparent that, outside of l. c. l., little of the rail freight can be expected to move by air.

Character and Rates of L.c.l. No Inducement

"However, l. c. l. shipments usually consist of crates, cartons, boxes, barrels, furniture, castings, drums, sacks, and other types of miscellaneous shipments. Numerous class rates are used, some being higher than the first-class rate and many lower. In some instances the rates include pickup and delivery. In more than 1,000 cities Railway Express has been selected by the local railroad as the most efficient means to perform this vehicle service or transfer between stations. In all cases, l. c. l. freight is handled into and out of the cars by railroad employees, and the carrier is responsible for damage occurring if mishandled. A recent report prepared by a mid-continent rail carrier shows that, for several typical movements, the first-class l. c. l. rate varied from 3.9 cents per ton-mile on a 907-mile haul to 6.6 cents on a 527-mile haul and 5.3 cents on a 2,259-mile haul.

"Of the traffic on the Great Lakes, a considerable portion of the tonnage is coal and ore, frequently loaded into the vessels by car dumpers which raise and tip over an entire carload. The unloading is accomplished by highly mechanized equipment. Grain boats are loaded and unloaded at completely mechanized storage elevators. Package traffic has diminished on the Great Lakes. In normal times, many automobiles are transported from the assembly plants, frequently as deck loads. Practically none of this traffic would ever move by air. The same conclusion is reached for the traffic moving by inland waterways and by pipe lines.

"Considering the 44 billion ton-miles carried by trucks, it is only necessary to call on one's memory regarding the character of traffic that one sees in these trucks to realize what a small proportion would ever move by air. The trucking industry laid major emphasis on the advantage of door-to-door pickup and delivery, for this was of added importance in short-haul traffic as the cost thereof was a larger percentage of the cost of the line haul.

Tests on Express Traffic

"Tests made of the traffic of Railway Express indicate that of the 1,600,000 ton-miles of l. c. l. rail express moved in 1940, the first-class matter comprised less than half of the total weight, 49.4 per cent. The average first-class l. c. l. shipment weighed approximately 29 lb., against an average for all classes of 41 lb. In October, 1939, 73.1 per cent of all first-class rail express shipments carried charges ranging between 25 cents and 99 cents. For the first-class rail express shipments bearing charges of $1 and over, the average weight was 68.5 lb. and the average charge, $2.69. In May, 1939, the average length of haul was 487.5 miles for l. c. l. rail express, and of this, the first-class rail express business

that moved less than 350 to 450 miles produced 52.4 per cent of the shipments, 52.9 per cent of the weight, and 32.98 per cent of the gross revenue.

"Practically all air shipments in the pre-war period were commercial shipments and the same may be expected in the post-war period. The only reason that such shipments are flown is that the speed of flight returns a profit to the patron who pays the charges. In the majority of cases it has been found that it is the consignee who specifies whether a shipment is to be flown or sent by other means. The necessity for selling the consignee constitutes an important difference in the methods required to build up air cargo business and the sales methods and activities used for obtaining passengers or air mail. The consignees of the country are located in the million and a half retail establishments throughout the length and breadth of the land. Selling these consignees requires not only personal acquaintance and some knowledge of their individual businesses, but also frequency and persistency in sales effort. As stated previously, many of the bigger and better shipments move to or from points that are not located directly on the routes of the passenger airlines.

"This off-airline business shows the greatest rate of increase. With the perfection of equipment for picking up shipments while the airplane is in flight and discharging them without the airplane landing, as is now being done among the existing feeder-line routes, this off-airline business may be expected to increase. But selling the consignees in the smaller towns on feeder-line routes is a hard field to harvest, as frequency of service is not as great as on the more traveled air routes, and the high revenue shipments are of a size, weight, or commodity that cannot always be handled safely without landing."

Stowing Air Freight

"There has been no scientific method of shoring and stowing cargo in freight planes until now"—so E. S. Evans, president, Evans Products Company, informed the audience. "In most instances cargo carriers today are converted passenger transports or bombers, and no provision of a permanent character has been made for cargo shipment. The very nature of the structure of an airplane is such that it is difficult to fasten heavy objects in such a way that they will not tear through the aluminum sheeting, and so the engineering of airplane loading offers difficulties that are foreign to loads in freight cars or truck trailers. However, where transports are designed and built for freight transport, this is no longer true. Strong, securely-fastened loader parts can be incorporated into the design of the ship so that hold-down members of various types can be attached without danger of injury to the hull of the ship itself, and individual commodities of considerable weight, such as airplane engines, reels of cable, large machine tools, etc., can be loaded with safety and security.

"The one thing that the loading engineer has to consider as the prime factor of airplanes is weight. In a box car we use equipment that weighs 9,000 lb. In a plane, carrying almost as large a load, the equipment will weigh less than 3 per cent of this amount, or a maximum of less than 300 lb.; and in such planes as are ferrying freight to Alaska, the loading materials used for fastening down a whole cargo weigh about 100 lb. Therefore, the greatest care is necessary in design to accomplish lightness and, at the same time, ample strength has to be employed. Materials must be used that will insure a tight and resilient fastening and one that will not stretch under impact, for it is not unusual for a down draft to be violent enough to lift the entire cargo so that it will exert an upward strain of 2.4 times its own weight. If the cargo is not held securely and the plane should wobble, the whole cargo could be thrown off center and the center of gravity changed to such a point that the plane would crash."

Blackout and Protective Lighting

(*Continued from page 1031*)

interior exposed, and, second, artificial illumination will usually be required in the daytime. In any event, the interior surfaces of windows and skylights should be painted light in color.

Adhesive coverings should be opaque and adhere strongly to the glass, and should possess considerable tensile strength. Cloth, paper or fibrous materials can be used.

Weatherproof materials should be placed on the exterior of the glass to minimize specular reflection. An advantage of adhesive coverings over paint is that the scattering of glass may not be so pronounced.

Rigid screens and shutters should fit closely in the openings or overlap the openings sufficiently to avoid light leakage. It may be desirable to hold such screens in place by flexible or electric means to absorb some of the shock of blast concussion. Various types of opaque covering, such as curtains, blankets, building paper, plywood, fibre wood or cardboard may be used. Some of the materials may be mounted on light wooden frames.

Particularly in the public areas in structures, it is necessary to have signs to direct traffic. While the normal lighting shows these up satisfactorily where the obscuration method of blackout is used, it might often be desirable to resort to the use of phosphorescent or fluorescent materials for such signs where the lights are either extinguished or the low level of illumination is installed.

Prosphorescence and fluorescence are quite different phenomena. Phosphorescent materials are those which, having been excited to luminescence, continue to glow for some time after excitation has ceased. Fluorescent materials, on the other hand, have the property of emitting visible light while excited by an external source of ultraviolet radiation, or "black" light. Naturally, it is necessary that the ultraviolet source used for exciting fluorescent materials in the interiors of buildings shall be completely invisible outside the building. As soon as the exciting sources are extinguished or removed, fluorescent materials cease to glow. Fortunately, most phosphorescent materials also fluoresce.

Phosphorescent materials may be used to outline doors, doorknobs, switches, stairs, obstructions, elevators, railings and corridors, as well as paths to air raid shelters, rest rooms, first-aid rooms, etc. They may also be used for interior signs at locations where legibility distances of not more than 15 to 20 ft. are required.

Better grades of phosphorescent materials, in the form of decalcomania transfers, tape, paint, impregnated cloth, coated or transparent plastic, etc., will emit a visible glow in complete darkness for a period of several hours. In general, phosphorescent pigments applied by the manufacturer under controlled factory conditions are superior to those applied at point of use.

Railroads-in-War News

Would "Liquidate" Traffic Solicitors

Proponent is advised that the railroads tried out his idea in War I

The usefulness of railroad freight traffic department personnel under existing wartime conditions was questioned by Interstate Commerce Commissioner J. Monroe Johnson, and defended by J. J. Pelley, president of the Association of American Railroads, in a recent exchange of correspondence which began with a protest by Mr. Johnson primarily against continuing the practice of tracing shipments for individual shippers. Elaborating on this criticism, he expressed the opinion that railroad traffic departments should be abolished for the duration.

Pointing out a number of ways in which the freight traffic department in general, and the solicitor in particular, contributes to railroad efficiency in war, Mr. Pelley remarked that a great mistake was made during World War I when the step recommended by Commissioner Johnson was put into effect by the federal administrator, with the result that private management after the war was put to considerable expense in time and money in assembling freight traffic personnel.

Railroad freight solicitors are particularly helpful to shippers under present conditions, Mr. Pelley said, because they can offer suggestions for meeting government requirements for heavier loading of cars, and aid inexperienced industrial traffic men in interpreting rules and tariffs and figuring rates.

Replying to Mr. Pelley's defense of traffic department personnel, Commissioner Johnson repeated his objections to the practice of checking for shippers the progress of freight shipments in transit and of actively soliciting freight for roads already taxed to capacity, which still continues, he asserted. He conceded, however, that traffic departments are useful, even under wartime conditions, for other purposes, such as those suggested by Mr. Pelley, on which he proposed they should concentrate their energies.

After a survey of opinion made at a meeting of traffic officers in New York, Mr. Pelley reported to Mr. Johnson that these officers feel that, to many shippers, the freight solicitor is the railroad, that he is the contact man between the railroads and the shippers, working in co-operation to secure maximum efficiency from available facilities. Moreover, he added, some reduction in traffic department personnel has resulted from men joining the armed services, and others are to be expected, with the result that the remaining staff has at least as much to do as in peace times.

Trade Shows Get ODT Disapproval

Because railroad passenger, baggage and express facilities are being subjected to severe strain by current demands of essential traffic, trade shows, sales meetings and similar events requiring intercity transportation should be cancelled for the duration, the Office of Defense Transportation has pointed out, indicating that such gatherings come under the heading of conventions, the subject of a statement by ODT Director Joseph B. Eastman reported in *Railway Age* last week.

Henderson Quits OPA Job

The resignation of Leon Henderson, federal price administrator, on December 17, one day after the adjournment of Congress, is announced to take effect with the appointment of his successor. Mr. Henderson's resignation from his office of director of the WPB Office of Civilian Supply had been announced only a few days before, and at that time it was stated that he planned to give his full attention to directing OPA rationing and price control activities, which recently have included active participation in railway rate proceedings. In advance of official announcement of his successor in the OPA post, Senator Prentiss M. Brown, Michigan Democrat defeated at the last election, is said to be in line for the appointment.

"Transport Goes to War"—Report on British Experience

The British Ministry of Information has issued for the Ministry of War Transport an 82-page illustrated booklet entitled "Transport Goes to War" which is, in essence, the official story of British transport from 1939 to 1942.

The booklet is divided into nine chapters and covers all phases of transportation. The first two chapters deal mainly with the transition of rail transportation from peacetime to wartime operation and the problems confronting the British railways in this respect. The next two chapters are concerned with buses and street railways and the fifth chapter is devoted to waterways and their problems. The remaining chapters tell the story of the part played by employees in the efficient operation of the British transportation facilities.

The booklet is profusely illustrated with excellent photographs. The Great Western, the London & North Eastern, the London, Midland & Scottish and the Southern, and several other agencies, co-operated with the editors in providing photographs and text.

Order Railroads to Pool Motor Service

Tie-up required by railroad highway operations with those of independents

Highway affiliates of two railroads have been ordered by the Office of Defense Transportation to enter into arrangements with competing lines for co-ordinated bus and truck operations. The Missouri Pacific Transportation Company and Arkansas Motor Coaches are required to honor each other's tickets and stagger bus schedules between Memphis, Tenn., and Texarkana, Tex. The former line is limited to seven round trips between Memphis and Little Rock, Ark., and the latter to five.

Between Little Rock and Texarkana the Missouri Pacific's bus line is limited to four round trips daily, while the Arkansas coach line is restricted to five. The order further requires that joint ticket agencies and depot facilities shall be maintained as far as practicable in the affected territory. Co-ordinated operations are effective December 26. On the same date, the Burlington Transportation Company is required to establish co-ordinate service with competing truck operators on several routes. The Burlington service and the American Freight Lines are involved in the order affecting routes from Chicago to and from Peoria and other Illinois points and St. Louis, Mo. The A. F. L. will discontinue transportation of all shipments from or through Chicago destined to Kewanee, Galva, Galesburg, Monmouth and Abington, Ill., and divert them to the Burlington truck line, which will divert to the A. F. L. all shipments from or through Chicago and St. Louis destined to Peoria, Ill.

Another order provides that the Burlington Transportation Company divert to Merchants Motor Freight its freight business between Des Moines, Iowa, and Omaha, Neb., and between Des Moines and St. Louis, Mo., but it will continue to perform pick up and delivery service at the terminal points.

A similar arrangement is ordered for the diversion of Burlington truck line freight from or through Chicago to Rock Island, Moline and East Moline, Ill., and Davenport and Bettendorf, Iowa, to the Dohrn Transfer Company. Certain intrastate operations in Illinois also will be discontinued by the Burlington affiliate, such as that between Rock Island and Kewanee, and diverted to the Dohrn line, which in turn will divert to the Burlington shipments originating on its route from Kewanee, Ill., to Peoria.

The orders affecting the Burlington

affiliate followed applications by the truck operators involved for authority to make arrangements for co-ordinated service, which, the ODT states, will result in an annual saving of more than one and one-half million tire miles and release "a large number" of trucks for other essential uses.

ODT Appointment

William C. Glynn, who retired recently from the position of assistant freight traffic manager of the Pennsylvania, has been appointed chief of the newly-formed Transportation Section of the Containers Division, War Production Board. Mr. Glynn, the WPB announcement said, "will work out details for conservation of transportation and distribution facilities within the containers industry."

Navy Shipments to Port Areas Now Under Permit System

Exception Order ODT 16-1, Amendment 1, has been issued by the Office of Defense Transportation to rescind the exemption from the port-traffic permit system which has heretofore been accorded movements of United States Navy export shipments from inland points to port areas. The rescinding order became effective December 21; and Navy export shipments may now be moved to port areas only under regular ODT permits or under special so-called "Series 66" permits which latter are granted at the sole discretion of the Navy Department.

Trip Limit Lifted on Trucks Unloading "Reefers"

To speed the unloading of refrigerator cars engaged in the movement of fresh fruits and vegetables, the Office of Defense Transportation December 21 announced that trucks handling such produce between freight terminals and wholesale markets are exempted from the requirements of General Order ODT No. 17, which forbids more than one truck delivery a day from one point of origin to one destination. Trucks engaged in unloading refrigerator cars may make as many deliveries as necessary, and may travel partially loaded if circumstances require it, under the terms of General Permit ODT 17-19.

New Tie Prices Set for East

Following a study of tie production carried on by the Office of Price Administration which showed that in the face of increased demands production so far in 1942 has fallen off about 23 per cent as compared with the same period last year, the OPA announced December 21 a complete revision of Maximum Price Regulation No. 216, establishing price ceilings on ties produced in the eastern half of the United States.

This measure is a companion to regulation No. 284, covering the western states, revision of which was announced in *Railway Age* of December 19, page 1006. The new price ceilings become effective in the eastern area December 26, supplanting the formula established September 5 of this year.

An increase of about 10 per cent over March, 1942, tie prices is allowed by the revised regulation. It sets up specific dollars and cents ceiling prices, varying with different production districts, which are stated to reflect railroad experience as to price levels that will encourage continued output. Eight production zones are established, and prices are set for four classifications of ties in each zone, according to size. In addition to the four classes, prices are established for "serviceable rejects," and provision is made for determining prices for switch ties, narrow gage ties and miscellaneous types. Bridge ties and crossing timbers, however, are not covered by the revised schedules and remain subject to the OPA general maximum price regulation.

Under the new provisions, the price for good quality oak ties varies, the announcement points out, from $1.15 to $1.60, depending on the historical differentiations in price among the various producing areas.

Slight Increase Reported for October L.c.l. Carload

Based on reports from 116 Class I railroads, the Office of Defense Transportation has determined that the average l. c. l. carload shipment in October was 20,592 pounds, as compared with 20,566 pounds in September. The total l. c. l. movement in October was 892,009,057 pounds, or 11 per cent, more than in September, and 42,826 or 10.9 per cent, more cars were loaded in handling it. As compared with May, before General Order ODT No. 1 became effective, the announcement states, these railroads handled 20 per cent more l. c. l. freight in only 4 per cent more cars loaded, while the average load increased 15 per cent.

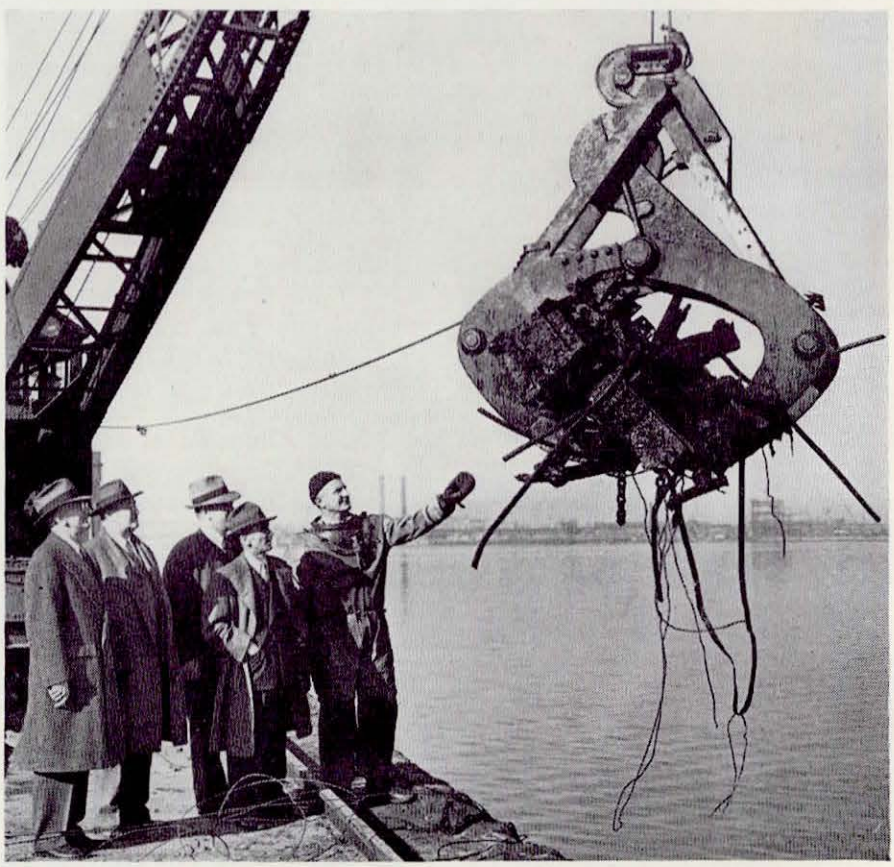
Switching and terminal lines and short lines reported an average l. c. l. load of 16,931 pounds in October, as compared with 16,395 in September, while forwarders reported an average load of 38,181 pounds, compared with 37,703 pounds in the previous month.

Rock Island Shopmen Start Stay-on-Job Campaign

In line with a nation-wide movement to avoid delays in vital war transportation, employees of the Chicago, Rock Island & Pacific shops are launching a program to "Stay on the Job." Every effort is being made to eliminate absenteeism which interrupts work schedules and holds up vitally needed equipment.

The unprecedented strain on locomotives and all types of equipment because of the demands of war transportation requires the services of every shopman for a maximum work week, it is pointed out. Periodic laying off by employees, even of one man for a single day, frequently cripples the output of a shop. Yet it is this type of irregu-

* * *



The Boston & Maine Dunks for Scrap

Freight vessels, many of them Japanese, have loaded scrap at the B. & M. docks along the Mystic river for more than 10 years. When it was discovered recently that probably 500 tons of grade A scrap which had gone overboard piece by piece during these operations now rested at the bottom of the river, the road arranged to have a crane scrape the bottom. In less than 2 hours a 50-ton car had been filled, with still more to come.

larity, this laying off for brief periods, that is the most difficult to control, according to shop foremen and supervisors.

The "Stay on the Job" campaign is being augmented by a series of posters designed to emphasize the importance of regularity among workers on the home front. The first of the series pictures a railway shop worker and a machine-gunner with the caption, "They're on the Job, Let Us Stay on the Job."

ODT Advisory Committees

Eleven additional Transportation Advisory Committees have been formed in as many different cities by the Office of Defense Transportation. Like the previous ones, they are made up of shipper representatives who will advise the field staffs of ODT's Divisions of Railway Transport and Motor Transport, "collaborating on rail-truck coordination studies and railroad problems in general."

The new committees have been organized at Atlanta, Ga., Cincinnati, Ohio, Cleveland, Houston, Tex., Indianapolis, Ind., Jacksonville, Fla., Los Angeles, Calif., San Francisco, New Orleans, La., Birmingham, Ala., and Minneapolis-St. Paul, Minn.

WPB Transport Committee for Drugs and Cosmetics Industry

Wartime transportation problems of the drugs and cosmetics industry were discussed in Washington, D. C., on December 17 when the War Production Board's recently-organized Drugs and Cosmetics Industry Transportation Advisory Committee held its first meeting.

The outcome, according to the WPB announcement, was the appointment of "task" committees to study such matters as the elimination of long hauls, cross-hauling, and circuitous routing; the turn-around of transportation equipment, including the prompt loading and unloading of all types of freight cars and trucks, and the cleaning of cars; and the possibilities for heavier loading. Other matters discussed included "the scheduling of shipments to lighten the seasonal strains on transportation and to spread shipping through the year."

Transportation Corps Gets New Field Organization

Field agencies of the Transportation Corps, Army Services of Supply, are consolidated into nine transportation zones by a War Department order announced December 17. The zones correspond to the nine military Service Commands. Each zone officer, and district officers under him, will have charge of Army regulating stations, freight consolidation and distributing stations and holding and reconsignment points.

Other duties of the zone officers include maintaining liaison with local traffic organizations and agents of carriers, and also with representatives in their localities of other government agencies concerned with transportation. Their responsibilities also include supervision of ground storage, prompt unloading and release of freight cars, and arrangement of facilities for movement of Army supplies and personnel.

The zone headquarters, and officers in charge, are as follows: Boston, Mass., Col. Marcel Garsand; New York, Col. E. B. Gray; Baltimore, Md., Col. M. A. McFadden; Atlanta, Ga., Col. H. L. Green; Columbus, Ohio, Col. H. A. Boone; Chicago, Ill., Col. Dan A. Hardt; Omaha, Neb., Col. E. A. McTamaney; Dallas, Tex., Col. W. H. Noble; and Salt Lake City, Utah, Col. J. C. P. Hanley.

East Coast Oil Movement Shows No Improvement

Several factors contributed to a decline in average daily receipts of petroleum products by tank car in the East Coast area in the week ending December 12, Petroleum Administrator for War Ickes has announced. His report indicates that the area received 736,099 barrels daily, a decrease from the previous week of 30,959 barrels a day. The New England territory, however, received an average of 811 tank carloads a day, as compared with 805 carloads in the previous week.

Comparisons with previous weeks are affected, the statement points out, by the fact that pipeline capacity between Lima, Ohio, and Buffalo, N. Y., has been so increased that an additional 8,000 barrels a day now can be loaded into tank cars at the latter point instead of at Lima. This situation brings about faster turn-around of tank cars, but does not show in the weekly statistics, as Buffalo is within the East Coast area and loadings there are not counted in the reports of rail shipments to that district.

Cold weather was responsible for some delay in tank car movements, the Administrator reported. In addition to its effect on yard and switching operations, the cold causes ice to form in the bottom of loads of crude oil, necessitating delay in unloading while thawing is accomplished.

To speed up turn-around of tank cars, terminals have been set up in six East Coast zones to handle train lots of tank cars.

After the cars are unloaded at these points supplies are "fanned out" to surrounding areas by truck and barge. Headquarters of the zones have been established in Boston, Mass., Philadelphia, Pa., Baltimore, Md., Charlotte, N. C., Atlanta, Ga., and Pittsburgh, Pa.

The Office of Defense Transportation announced December 20 that approval has been given by the War Production Board to a program for building barges, tugs and towboats that is expected to contribute an additional 50,000 barrels of heavy fuel oil daily to Atlantic coast deliveries within five months, and twice that amount within ten months. Practically no heavy oil is moved by barge into this area now, the ODT adds.

The program calls for movement of 50,000 barrels daily from Texas ports to Panama City, Fla., through the Gulf Intra-coastal waterway. From Panama City the oil will move by tank car, half to the Norfolk, Va., area and half to Jacksonville, Fla., for distribution along the Atlantic coast by water. Another 50,000 barrels a day will be moved by barge up the Mississippi to the Cairo, Ill., terminal, whence it will be moved by tank car to the East. Provision is made for the construction of necessary terminal facilities at Cairo, Panama City, and Jacksonville, it is said.

Following the emergency ban on retail gasoline sales for passenger car use applied in the East Coast area December 18, 19 and 20, Administrator Ickes announced that withdrawals of gasoline and fuel oil from refineries and terminal supply points within that territory would be subject to his control, and quotas for the balance of this month and for January, 1943, were made public for these products. Specific allotments are made from these totals to six geographic zones within the critical area. In explaining this order Deputy Administrator Ralph K. Davies said the oil industry, the transportation companies, the ODT and the PAW office have worked earnestly to build up supply "in the face of enormous difficulties. I will say without qualification that the progress which has been made has been little short of amazing."

Mr. Davies also announced that actual construction of the pipeline from Norris City, Ill., to the New York-Philadelphia area was started December 21. More than 400 railroad cars will be required to move contractors' equipment for this job, he stated.

Work will go forward from 17 different points, and more than 160 miles of pipe already has been delivered to points along the route.

"Collect" Shipments to be Limited on British Railroads

To save manpower and to relieve strain on employees due to the ever-increasing volume of war traffic, the British Ministry of War Transport has announced that effective January 1 all freight traffic by rail —excepting cattle, fruit and vegetables— must be sent prepaid, the shipper being responsible for freight charges at the point of origin, according to a release by the British Supply Council in North America.

The exceptions mentioned are only temporary—as soon as arrangements can be made to overcome specific difficulties in these cases, it is hoped that all rail traffic may be brought within the scope of the new order. Merchandise traffic by passenger train and about three-fourths of the traffic by freight train is already sent prepaid. By discontinuing the practice of sending freight collect—to be paid for at destination—a great many clerks and members of the accounting department will be free to handle other work.

As one example of what the war has done to British transportation, the case of a small town in Southern England is cited. In pre-war days the railroad serving this town handled about 600 passengers and 2,500 consignments, which involved the use of about 750 freight cars. After the outbreak of the war an airdrome was built nearby, with the result that in 1941 nearly 11,000 passengers were carried and 6,000 consignments handled—involving nearly 7,000 freight cars.

GENERAL NEWS

Employees Brought Together by Radio

N. & W. blankets its territory with 30-minute program in lieu of meeting

On Monday evening, December 21, the Norfolk & Western went on the air with a 30-minute transcribed radio broadcast designed to tell the general public and members of the railroad family of the vital part the railroads and their employees in general, and the Norfolk & Western in particular, are playing in the war effort. The program was sponsored by the 21 Norfolk & Western Better Service Clubs and was broadcast over a system-wide hook-up of about 16 stations located in Maryland, Virginia, West Virginia, North Carolina and Ohio. The broadcast was presented in lieu of the railway's annual Better Service Conference—usually attended by delegates from all parts of the system—which has been discontinued for the duration of the war in order that employees may stay on the job during the war emergency and also to conserve space on trains.

The broadcast consisted of a number of "on-the-spot" interviews, conducted by James D. Johnston, of Roanoke, with some of the men who keep the wheels rolling. The first interview was with T. F. Sheehan, a veteran employee in the road's machine shops at Roanoke, Va., who gave a word picture of the activities carried on at that point 24 hours a day. Engineer Daniel Webster Johns spoke from the cab of one of the N. & W.'s large steam freight locomotives in the Roanoke yards.

The next interview consisted of a two-way conversation between President W. L. Jenks and Tom Hardy, veteran train dispatcher, who talked over the old days when they railroaded together. The scene was then shifted to one of the control towers at the Portsmouth, Ohio, yards, where T. Honaker, car retarder operator, explained how the movement of coal cars is controlled by the use of car retarders and switches. Conductor Mayo Adams, "captain" on the "Pocahontas," operating between Roanoke and Norfolk, was next interviewed and he told something of how the N. & W. handles its heavy war-time passenger traffic.

The broadcast was concluded with a talk by Lawrence Gardner, general claim agent, who is system chairman of the 21 N. & W. Better Service Clubs. He traced the history of these clubs and explained their purpose, stressing the need for better service during the present emergency.

Featured in the broadcast were songs by the Norfolk & Western Negro male chorus. Future radio programs are planned for March, June, September, and December of next year, at which time other employees will be presented.

Rock Island to Sell Three Grain Elevators

The Chicago Rock Island & Pacific has been authorized by the District court to sell three grain elevators located on the Calumet river in South Chicago, Ill., to the East St. Louis Grain Elevator Company for $400,000. The road paid a million dollars for the elevators in 1904 but recently maintenance cost has exceeded rentals.

M. E. Fitzgerald is Given The St. Louis Car Award

The bronze plaque which has been issued annually for the last few years by the Car Department Association of St. Louis for distinguished service in the field of railway car design, maintenance and use was awarded this year to M. E. Fitzgerald, master car builder of the Chicago & Eastern Illinois. The presentation was made at the regular monthly meeting of the association on November 17, 1942, at which time Mr. Fitzgerald made the principal address on "The Car Department In Action."

Tribute to Charles C. Hubbell

President William White of the Delaware, Lackawanna & Western, on December 21, 1942, gave a luncheon in the ballroom of the Biltmore Hotel, New York, as a tribute to Charles Carlton Hubbell, general purchasing agent of that road, who is to retire on December 31, after 47 years of service. Mr. Hubbell's associates on the Lackawanna presented him with a rare antique silver tray and his friends in the railway supply field presented him with a watch. Mr. Hubbell was recently elected president of the New York Railroad Club, of which he has long been an officer and one of the most active workers.

Trainmen Devise Plan for Relieving Man-Shortage

The Brotherhood of Railroad Trainmen has devised a plan for relieving shortages of yardmen and yard service employees which it has asked the railroads to try out in the Chicago switching district. Under the plan, workers who are idle for several days because of traffic slumps on their own roads would be allowed to take day to day jobs on other roads which need workers. The program was evolved from the suggestion that a temporary job registry be established in Chicago to prevent the lack of manpower from delaying the movement of war materials. The union would like to extend the plan wherever possible to other railroad centers.

All-Freight Rates To South Approved

All-commodity schedules found compensatory, but I. C. C. opinion is divided

Approval of the railroad all-commodity carload rates to points in southern territory from Chicago, Mississippi and Ohio river crossings and Illinois freight association territory is expressed by the Interstate Commerce Commission in an order of the full commission discontinuing its investigation of the matter, thus substantially accepting the findings of its examiner, reported in *Railway Age* of June 13, page 1162.

Investigation into the lawfulness of the rates was begun by the commission on its own motion, and certain related Investigation and Suspension cases were considered at the same time. The investigation sought to determine whether the roads have preserved and enforced just and reasonable classifications, as well as to discover the effect of the rates upon carrier revenues, and their relation to other rail rates and rates of competing transportation services.

Pointing out that the declared purpose sought to be accomplished by these rates is to provide a more flexible method of handling traffic to meet the changed conditions of merchandising, to reduce the cost of handling l. c. l. traffic, to stimulate the use of rail lines, and to recapture as much as possible of the traffic lost to competing forms of transport, the report gives a history of the decline of affected traffic handled by the railroads before the all-commodity rates were set up, and the improved conditions following their introduction. Since the effective date of these rates, the report of the commission says, there has been a substantial increase in the loaded weight per car and in the revenue per car, though the revenue per ton has decreased somewhat. At the same time, it finds, there has been no decrease in the volume of l. c. l. traffic.

When these rates were first established, the commission further states, they were opposed by some rail carriers, by a number of shippers and traffic bureaus, and by motor truck operators generally. After a trial of as much as 5½ years on some roads, however, the rates have been so generally satisfactory that no opposition to them was manifested except by the competing motor carriers, and the commission finds that the large increase in the volume of traffic handled by motor carriers in the southern territory indicates that they have

(*Continued on page 1041*)

Railway Wages Not To Be "Stabilized"?

President rules railway wage case to side-step anti-inflation tribunal

Mediation conferences on the demand of 15 non-operating unions for a wage increase of 20 cents an hour and a closed shop will open in Chicago on January 7, 1943, the National Mediation Board announced this week. N. M. B. Chairman George A. Cook will be in charge of the proceedings, the entry upon which follows the December 15-17 New York meetings held between representatives of the unions and railroad managements.

Meanwhile, this case as well as the demand of the operating brotherhoods for a 30 per cent increase appears to be getting on the usual route to the White House—despite the "strong representations" made by the railroads to the War Labor Board that the latter organization should not surrender its jurisdiction under the Anti-Inflation Act.

President Roosevelt was asked at his December 18 press conference if he was in accord with the view that WLB should have jurisdiction; and his reply indicated his own view to the effect that present Railway Labor Act procedures are likely to prevail. That machinery, he informed the questioner, has functioned extremely well; and he added that he would not worry about the possibility of dissatisfaction or discrimination such as the railroad plea had suggested might arise if WLB did not retain jurisdiction.

Thus it would seem that the outcome is likely to be an emergency board appointed by the President under the provisions of the Railway Labor Act or one named by Dr. William M. Leiserson, chairman of the National Railway Labor Panel, which was set up by President Roosevelt's May 21 executive order to provide wartime procedures whereby emergency boards would be appointed without the necessity for the taking of a strike vote. Some time ago Dr. Leiserson asked Director Byrnes of the Office of Economic Stabilization for a statement of OES policy with respect to railroad wage proceedings for the guidance of the National Mediation Board and other interested agencies. No such policy statement has yet been made public, although it is understood that there have been drafted tentative executive orders to clarify the situation.

As noted in the *Railway Age* of October 10, page 572, the President's executive order creating OES extended the functions of WLB "to cover all industries and all employees," but stipulated also that nothing in it should be construed as affecting "the adjustment procedure of the Railway Labor Act." This was interpreted generally at the time to mean that railway wage cases could still go through their usual procedures, but settlements would have to be approved by WLB before they could be made effective. Seemingly, however, it could mean that railway wage matters were excepted; so clarification is anticipated in the near future.

Freight Car Loading

Car loading figures for the week ended December 19 were not available from the Association of American Railroads at the time this issue went to press.

Loading of revenue freight for the week ended December 12 totaled 740,336 cars. This was a decrease of 66,889 cars below the corresponding week in 1941, but an increase of 3,996 cars as compared with the same week in 1940. The summary for the December 12 week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For the Week Ended Saturday, December 12

District	1942	1941	1940
Eastern	144,437	169,280	161,849
Allegheny	159,784	176,359	159,608
Pocahontas	53,153	52,020	46,688
Southern	113,404	125,102	114,040
Northwestern	81,921	95,220	86,287
Central Western	118,091	127,714	113,785
Southwestern	69,546	61,530	54,083
Total Western Districts	269,558	284,464	254,155
Total All Roads	740,336	807,225	736,340
Commodities			
Grain and grain products	44,849	41,533	33,056
Live stock	17,418	13,841	13,727
Coal	165,966	154,891	149,679
Coke	14,553	14,048	13,272
Forest products	36,937	42,377	39,618
Ore	14,065	16,173	13,470
Merchandise l.c.l.	90,967	152,741	153,619
Miscellaneous	355,581	371,621	319,899
December 12	740,336	807,225	736,340
December 5	759,621	833,375	738,513
November 28	743,533	866,180	728,525
November 21	836,427	799,386	733,488
November 14	826,601	883,890	745,295
Cumulative Total 50 Weeks	41,484,233	40,884,394	35,114,792

In Canada.—Carloadings for the week ended December 12 totaled 66,804, as compared with 62,886 for the same week last year and 66,885 for the previous week, according to the compilation of the Dominion Bureau of Statistics:

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
December 12, 1942	66,804	33,480
December 5, 1942	66,885	32,720
November 28, 1942	71,301	35,232
December 13, 1941	62,886	31,953
Cumulative Totals for Canada:		
December 12, 1942	3,261,418	1,692,401
December 13, 1941	3,082,690	1,499,261
December 14, 1940	2,714,711	1,244,825

November Operating Revenues 48.6 Per Cent Above 1941

Preliminary reports from 84 Class I railroads, representing 81.3 per cent of total operating revenues, made public December 17 by the Association of American Railroads, show that those roads, in November, had estimated operating revenues amounting to $552,244,472, compared with $371,512,009 in the same month of 1941, or an increase of 48.6 per cent. November freight revenues of the 84 roads amounted to $428,885,574 compared with $311,632,226 in November, 1941, or an increase of 37.6 per cent. Passenger revenues totaled $86,687,879 compared with $34,033,700 in November, 1941, or an increase of 154.7 per cent.

New I.C.C. Chairman For One-Year Term

Alldredge elected for 1943 in reversion to plan of rotating the office annually

Reverting to the plan of rotating that office annually on the basis of seniority, the Interstate Commerce Commission has elected Commissioner J. Haden Alldredge as its chairman for the year 1943. He will succeed Commissioner Clyde B. Aitchison who has served throughout 1942, first as acting chairman, and as chairman since the expiration on July 1 of the three-year term of Commissioner Joseph B. Eastman, on leave as director of the Office of Defense Transportation.

The commission's announcement said that Commissioner Alldredge's election came when Commissioner John L. Rogers, who by seniority in service was next in line for the chairmanship, found himself unable to take on the additional duties because he is serving as director of ODT's Division of Motor Transport.

Prior to the election of Mr. Eastman for the three-year term which began on July 1, 1939, the plan of rotating the chairmanship annually had prevailed since 1911; although the Eastman term was not unprecedented in commission history. Judge Thomas McIntyre Cooley, the first chairman, served from 1887 through 1891 when he was succeeded by William R. Morrison who served first as acting chairman and then as chairman from 1892 until the end of 1897. Martin A. Knapp was chairman from January, 1898, until the end of 1910 when he was succeeded by Judson C. Clements, the first of the one-year-term rotators.

The 1939 change which installed Chairman Eastman for three years was part of the internal reorganization which the commission announced at that time, at noted in the *Railway Age* of June 17, 1939, page 1024. In general the changes were designed to expedite procedures and to organize the commission's work along functional lines. In the latter connection, the Motor Carrier Division was stripped of its authority with respect to rates, securities, and the approval of consolidations, mergers, and acquisitions of motor carriers, and enforcement of penalties, those matters being "functionalized" under other divisions dealing with all carriers subject to the act. The reorganization was promoted by former Commissioner Marion M. Caskie, who was chairman at the time and who paved the way for Mr. Eastman's election by voluntarily curtailing his own service as chairman by six months.

Chairman-Elect Alldredge, a member of the commission since May 1, 1939, succeeded former Commissioner Frank McManamy. He was born at Brooksville, Ala., July 28, 1887, and was educated at the Central Alabama Agricultural School and the Jones Law School, Montgomery, Ala., where he received his LL.B. degree. Meanwhile he had entered industrial traffic work, serving in that field for nine years

prior to 1919 when he became secretary and traffic manager of the Dothan, Ala., Chamber of Commerce. He remained in that position through 1922, and from 1923 until 1934 he was chief of the Alabama Public Service Commission's Transportation Bureau. From 1934 until his appointment to the commission, Mr. Alldredge was with the Tennessee Valley Authority, serving in turn as transportation economist and director of the Commerce Department. Among other writings, he was the author of the TVA monograph on "The Interterritorial Freight Rate Problem of the United States," published in 1937.

Mr. Alldredge's I. C. C. term expires December 31, 1944. He got only a little better than a five and one-half year term, because President Roosevelt did nothing about naming a successor to former Commissioner McManamy for more than a year after his term expired on December 31, 1937, Mr. McManamy meanwhile remaining in office under that provision of the law which stipulates that an incumbent commissioner shall serve until his successor qualifies.

Rhode Island Commutation Fares

The Interstate Commerce Commission has ordered the New York, New Haven & Hartford to apply the Ex Parte 148 fare increases to its intrastate commutation fares in Rhode Island. The commission's action is a follow through from the recent report wherein it found that the refusal of the Public Utility Commissioner of Rhode Island to permit the increases caused undue preference of intrastate commuters and unreasonable prejudice against those traveling interstate. The report had allowed 60 days for the adjustment to be accomplished without an order.

N. Y. C.-Nicholson Case Assigned for Further Hearing

The reopened No. 28162 proceeding involving the relationship between the New York Central and the Nicholson Universal Steamship Company, a Great Lakes line, has been assigned by the Interstate Commerce Commission for further hearing "solely on the question of whether the finding in the report 'that there is actual competition for traffic between the New York Central and Nicholson Universal' should be modified." The further hearing will be held January 21, 1943, in Washington, D. C., before Examiner Fuller.

The N. Y. C. interest in Nicholson came about through the relationship of N. Y. C. affiliates to the United States Freight Company; and the commission's prior report (see *Railway Age* of November 8, 1941, page 753) found that the situation constituted a violation of the so-called Panama-Canal-Act provisions of the Interstate Commerce Act. Meanwhile, as noted in the *Railway Age* of November 28, 1942, page 901, there is now pending before the commission an application of Overlakes Freight Corporation, seeking approval of a consolidation of its properties with those of Nicholson in accordance with a plan which, the application said, will result in "a complete elimination of the United States Freight Company from any interest, direct or indirect," in Nicholson or Overlakes.

New York Railroad Club Contributes to Relief

More than 2,800 guests attended the Seventieth Anniversary Dinner of the New York Railroad Club at the Hotel Commodore, New York, on Thursday evening, December 10. The proceeds of the dinner, together with special contributions, netted about $4,560 each to the Army Relief Fund and the Navy Relief Fund, and $500 for the U. S. O. The retiring president of the club, William G. Curren, associate director, Railway Transport, Division E Region, Office of Defense Transportation, presented the incoming president, C. C. Hubbell, general purchasing agent, Delaware, Lackawanna & Western. The general committee in charge of the dinner was headed by J. T. Talbot, vice-president, American Brake Shoe & Foundry Company.

Mississippi Central Sponsors a Contest on Free Enterprise

The Mississippi Central is sponsoring a contest open to students in all high schools and colleges in the state of Missisippi for the best letters to either senators or congressmen on the subject of "Why Private Free Enterprise Should Be Preserved After the War Is Won."

Copies of a diagrammatic presentation by the road, entitled "The American Bill of Rights," have been made available to contestants, which are to be used as a basis for the letters. The contest has been divided into two categories, one for high school students and one for college students. The first prize for each division will be a $50 War Bond; second prize, a $25 War Bond, and the third prize, $10 in war stamps.

Letters are limited to not more than 400 words and must be submitted by February 1. They will be judged by their content rather than the manner of presentation and the Mississippi Central reserves the right to mail the best 25 letters entered in the contest to the senators and congressmen to whom these letters are addressed. Letters are received at the company's headquarters at Hattiesburg, Miss.

In announcing the contest, the road says —"it has been stated that 'the greatest menace to the republic is an uninformed electorate,' this contest is an effort to offset this condition to some extent."

More Ex Parte 148 Petitions

The Interstate Commerce Commission, when this issue went to press, had announced no action on the petitions filed by the Office of Price Administration, the Department of Agriculture and others seeking a discontinuance of the Ex Parte 148 rate increases which became effective early this year. These petitions were noted in the *Railway Age* of December 12, page 975, while the railroad answer was reported in the issue of December 19, page 1005.

Meanwhile the commission has received additional petitions supporting the OPA demand, including one filed by the Public Service Commission of North Dakota and various traffic associations and chambers of commerce in that state. Another came from a group of livestock interests, including the American National Live Stock Association, the National Wool Growers

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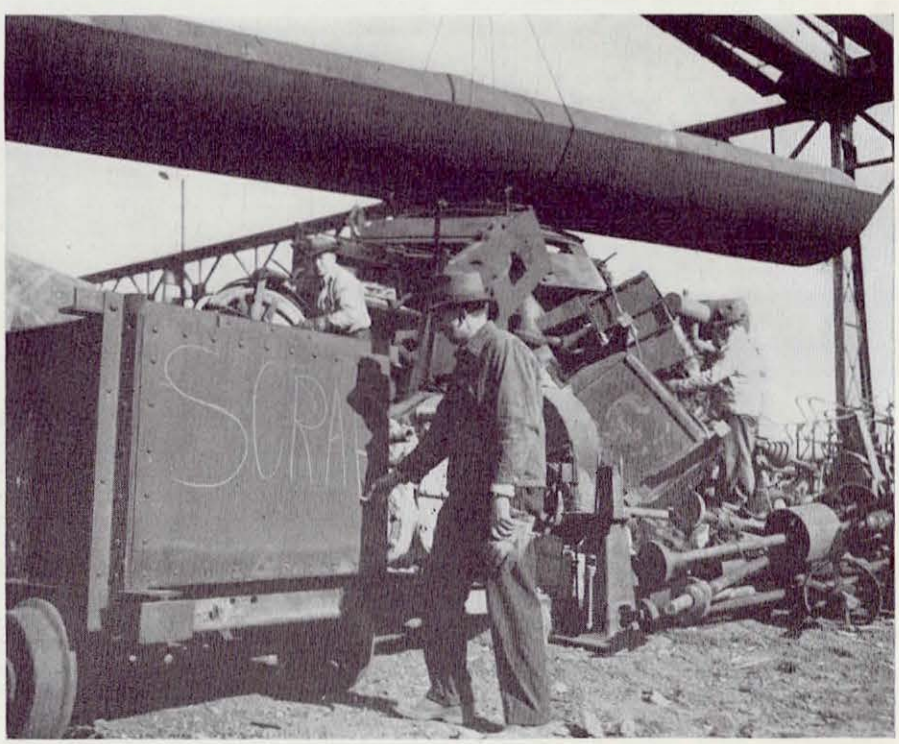

Dies Used for the First Streamlined Train Built by Pullman-Standard Goes Into Scrap

Association, the Texas and Southwestern Cattle Raisers Association, the Texas Sheep and Goat Raisers Association, the Highland-Hereford Breeders Association, Live Stock Traffic Association, and the National Live Stock Marketers Association.

Pari-Mutuel Machine Used by P. R. R. to Sell Tickets

The Pennsylvania recently installed at its Broad street station in Philadelphia, Pa., a pari-mutuel machine for the purpose of selling tickets between Philadelphia and main line suburban stations. These stations include points on the main line be-

One of the Tickets Now Handled by the Pari-Mutuel Machine

tween Philadelphia and Paoli, 20 miles to the west of Philadelphia. Tickets sold by the machine are for single trips only—two single trip tickets must be purchased for a round trip.

The machine, which has been modified for railroad use, was made by the same company which manufactures the pari-mutuel machines used at race tracks. Precautions similar to those taken at the race tracks to prevent counterfeiting have been taken. One ticket window at the Broad street station has been equipped with the machine, which is in operation from 7 a. m. to 3 p. m., and from 4:45 p. m. to 12:45 a. m. daily. Each main line station is numbered, beginning with No. 1 for the 52nd street stop to No. 18 for Paoli, which is the end of the line. A sample of the tickets issued by the machine is reproduced herewith.

It has been found that the use of the machine speeds the sale of tickets, since the passenger can take his ticket while the clerk is preparing the change.

Planned Progress Is Theme of Rock Island Advertising

The place which the Chicago, Rock Island & Pacific is taking in the movement of millions of tons of war-time freight, and in handling the capacity wartime passenger traffic, is being told in a new series of institutional advertising displays. The campaign, featuring the Rock Island's six year program of "Planned Progress," is running in 175 daily newspapers and a list of magazines. Similar advertisements, in smaller sizes, are running simultaneously in 400 on-line weeklies.

The displays emphasize the railroad's investment, during recent years, of millions of dollars in new equipment and in modernization, including its fleet of streamlined trains, the Rockets. Other improvements include Diesel locomotives, streamlined track by eliminating curves, and heavier rails, ties and ballast.

The initial advertisement explains that, as a result of the program of modernization, the railroad is "so well prepared that today we are capable of carrying even more vital war freight than the millions of ton-miles per day we have been so far called upon to haul!"

All-Freight Rates to South Approved

(*Continued from page 1038*)

not been seriously affected by the all-commodity rail rates.

The rates benefit both large and small shippers, the commission adds. While some of the larger shippers, such as mail order houses, consolidate merchandise in carloads and ship direct by rail, others utilize the service of freight forwarders, who are the principal users of the all-commodity rates. It is the general position of the railroads and the shippers and receivers of freight in the territories involved that the all-commodity rates have become an integral part of the transportation system and are indispensable, the commission finds, in view of the fact that the recent trend in merchandising practice has been toward buying and shipping in small quantities instead of in carloads.

Dissent to the majority findings was expressed by Commissioners Porter, Alldredge, Patterson, Rogers and Johnson. Commissioner Patterson's dissent was based on his objections to the carload minimums approved by the majority. The rates subject to minimum weights of 12,000 lb. not only are less than reasonable, he says, but encourage the wasteful use of cars, while those subject to the 30,000-lb. minimum are a lesser percentage of first class rates than similar proposed rates from eastern ports to the south which the commission condemned as unjust and unreasonable.

Commissioner Johnson dissented from the majority finding on the ground, among others, that it fails "to give adequate consideration to the purpose and meaning of a statute that sets forth a fundamental policy of rate-making" in citing as decisive "arbitrary findings" in previous cases holding that the railroads have not failed to establish a classification of freight as required by law. The rates approved, he continues, amount to preferential treatment of a selected territory, and result in a disruption of the class-rate adjustment from a large part of central territory to and within a large part of southern territory.

Other dissenting commissioners objected to the majority findings particularly on the grounds that the rates in question in their opinion violate the section of the statute requiring observance of a just and reasonable classification of property for rate-making purposes.

Stockholders Told of P. R. R.'s Wartime Expenditures

A small pamphlet accompanying dividend checks, sent out to stockholders by the Pennsylvania recently, sets forth the principal items in the special program for new equipment repairs, facilities and improve-

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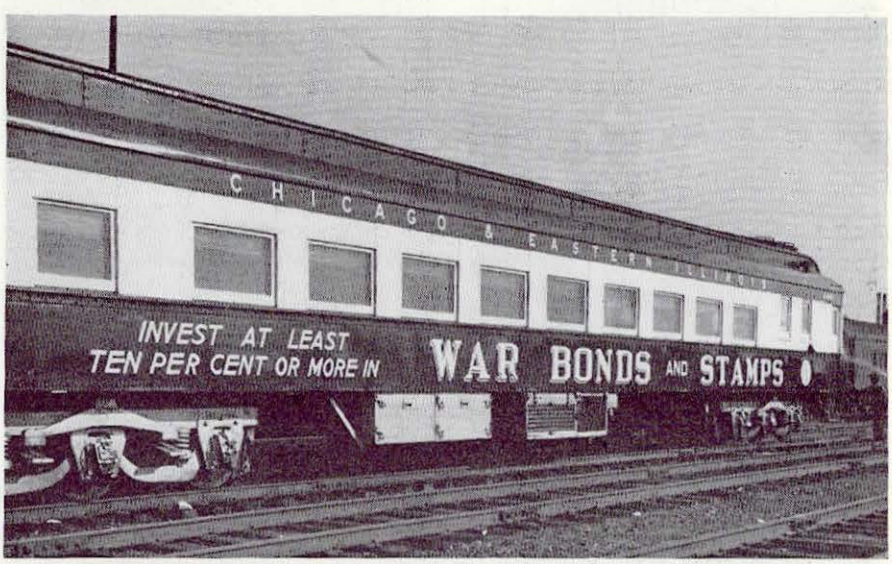

C. & E. I. Bond Sales Car

This passenger car in resplendent red, white and blue will carry the war bond message on its trips between Chicago and points as far south as Miami, Fla. Meanwhile, several freight cars of the C. & E. I. are carrying similar war savings messages.

ments, which the road has found necessary in order to handle increased war traffic. In addition to "hundreds of millions of dollars" expended by the road during the period since the outbreak of the present war and for normal and ordinary operations, nearly $200,000,000 has been expended for improvements and additions directly attributable to the war effort.

From August 31, 1939, to October 1, 1942, the pamphlet states, "an emergency investment of $72,591,807 above ordinary peacetime plans" was made in locomotives, cars and other equipment required to meet war responsibilities. This included 64 steam locomotives, 50 electric locomotives, 17 switch engines, 87 large-capacity freight locomotive tenders, 13,000 freight cars, 67 units of marine equipment and 77 passenger cars. "More will be needed" the shareholders were told.

During the same period, $81,827,966 was spent over and above ordinary peacetime costs on repairs to equipment. As a result, on October 1, 1942, with 233,642 freight cars "fit and running," 97.6 per cent of the cars were in good order, with only 2.4 per cent in the shop. In the case of steam locomotives—with 4,156 engines—97.9 per cent of the total owned were in active operation, with only 2.1 per cent in process of repair. An additional expenditure of $7,814,288 was made for rebuilding, converting and repairing passenger cars needed to handle war traffic.

Since the beginning of the war in Europe, $28,157,796 was spent for additions to tidewater terminals and their supporting plant and to yards, tracks and shop facilities throughout the system—all designed to accelerate the movement of essential freight—and many miles of sidings and tracks were also constructed to serve war industries and government requirements.

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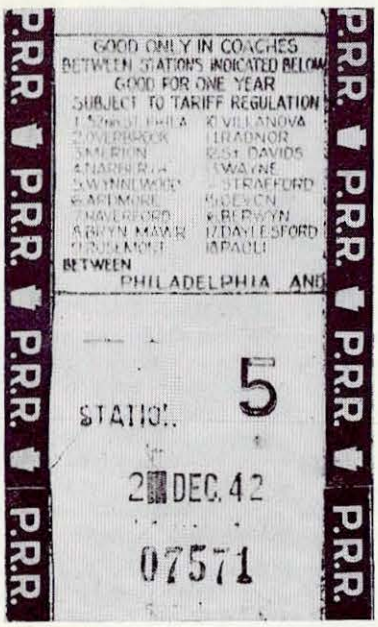
News Department continued on next left-hand page

Association, the Texas and Southwestern Cattle Raisers Association, the Texas Sheep and Goat Raisers Association, the Highland-Hereford Breeders Association, Live Stock Traffic Association, and the National Live Stock Marketers Association.

Pari-Mutuel Machine Used by P. R. R. to Sell Tickets

The Pennsylvania recently installed at its Broad street station in Philadelphia, Pa., a pari-mutuel machine for the purpose of selling tickets between Philadelphia and main line suburban stations. These stations include points on the main line be-



One of the Tickets Now Handled by the Pari-Mutuel Machine

tween Philadelphia and Paoli, 20 miles to the west of Philadelphia. Tickets sold by the machine are for single trips only—two single trip tickets must be purchased for a round trip.

The machine, which has been modified for railroad use, was made by the same company which manufactures the pari-mutuel machines used at race tracks. Precautions similar to those taken at the race tracks to prevent counterfeiting have been taken. One ticket window at the Broad street station has been equipped with the machine, which is in operation from 7 a. m. to 3 p. m., and from 4:45 p. m. to 12:45 a. m. daily. Each main line station is numbered, beginning with No. 1 for the 52nd street stop to No. 18 for Paoli, which is the end of the line. A sample of the tickets issued by the machine is reproduced herewith.

It has been found that the use of the machine speeds the sale of tickets, since the passenger can take his ticket while the clerk is preparing the change.

Planned Progress Is Theme of Rock Island Advertising

The place which the Chicago, Rock Island & Pacific is taking in the movement of millions of tons of war-time freight, and in handling the capacity wartime passenger traffic, is being told in a new series of institutional advertising displays. The campaign, featuring the Rock Island's six year program of "Planned Progress," is running in 175 daily newspapers and a list of magazines. Similar advertisements, in smaller sizes, are running simultaneously in 400 on-line weeklies.

The displays emphasize the railroad's investment, during recent years, of millions of dollars in new equipment and in modernization, including its fleet of streamlined trains, the Rockets. Other improvements include Diesel locomotives, streamlined track by eliminating curves, and heavier rails, ties and ballast.

The initial advertisement explains that, as a result of the program of modernization, the railroad is "so well prepared that today we are capable of carrying even more vital war freight than the millions of ton-miles per day we have been so far called upon to haul!"

All-Freight Rates to South Approved

(*Continued from page 1038*)

not been seriously affected by the all-commodity rail rates.

The rates benefit both large and small shippers, the commission adds. While some of the larger shippers, such as mail order houses, consolidate merchandise in carloads and ship direct by rail, others utilize the service of freight forwarders, who are the principal users of the all-commodity rates. It is the general position of the railroads and the shippers and receivers of freight in the territories involved that the all-commodity rates have become an integral part of the transportation system and are indispensable, the commission finds, in view of the fact that the recent trend in merchandising practice has been toward buying and shipping in small quantities instead of in carloads.

Dissent to the majority findings was expressed by Commissioners Porter, Alldredge, Patterson, Rogers and Johnson. Commissioner Patterson's dissent was based on his objections to the carload minimums approved by the majority. The rates subject to minimum weights of 12,000 lb. not only are less than reasonable, he says, but encourage the wasteful use of cars, while those subject to the 30,000-lb. minimum are a lesser percentage of first class rates than similar proposed rates from eastern ports to the south which the commission condemned as unjust and unreasonable.

Commissioner Johnson dissented from the majority finding on the ground, among others, that it fails "to give adequate consideration to the purpose and meaning of a statute that sets forth a fundamental policy of rate-making" in citing as decisive "arbitrary findings" in previous cases holding that the railroads have not failed to establish a classification of freight as required by law. The rates approved, he continues, amount to preferential treatment of a selected territory, and result in a disruption of the class-rate adjustment from a large part of central territory to and within a large part of southern territory.

Other dissenting commissioners objected to the majority findings particularly on the grounds that the rates in question in their opinion violate the section of the statute requiring observance of a just and reasonable classification of property for rate-making purposes.

Stockholders Told of P. R. R.'s Wartime Expenditures

A small pamphlet accompanying dividend checks, sent out to stockholders by the Pennsylvania recently, sets forth the principal items in the special program for new equipment repairs, facilities and improve-

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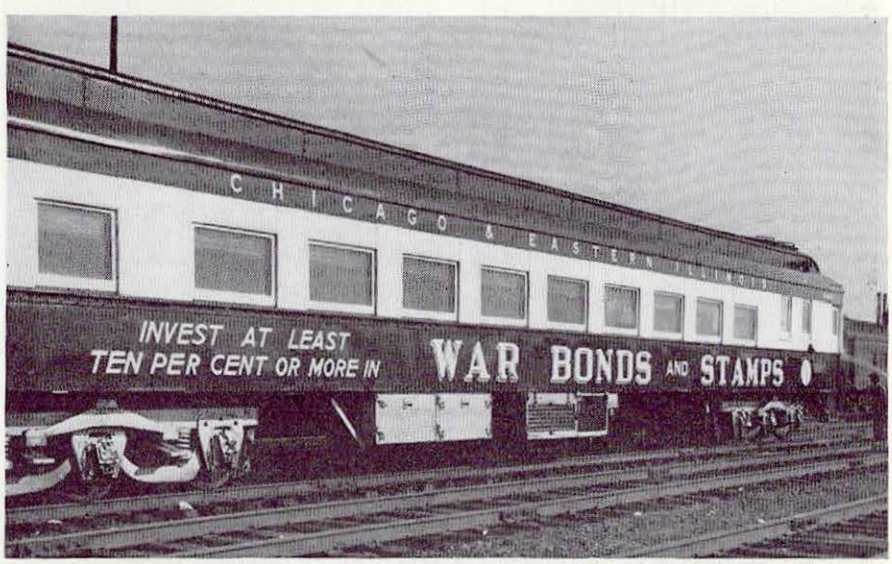

C. & E. I. Bond Sales Car

This passenger car in resplendent red, white and blue will carry the war bond message on its trips between Chicago and points as far south as Miami, Fla. Meanwhile, several freight cars of the C. & E. I. are carrying similar war savings messages.

ments, which the road has found necessary in order to handle increased war traffic. In addition to "hundreds of millions of dollars" expended by the road during the period since the outbreak of the present war and for normal and ordinary operations, nearly $200,000,000 has been expended for improvements and additions directly attributable to the war effort.

From August 31, 1939, to October 1, 1942, the pamphlet states, "an emergency investment of $72,591,807 above ordinary peacetime plans" was made in locomotives, cars and other equipment required to meet war responsibilities. This included 64 steam locomotives, 50 electric locomotives, 17 switch engines, 87 large-capacity freight locomotive tenders, 13,000 freight cars, 67 units of marine equipment and 77 passenger cars. "More will be needed" the shareholders were told.

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STEAM POWER IS STILL SUPREME

Serving America's Seaports

With our fast-growing fleet of Liberty ships and with American war plants turning out ever-increasing quantities of tanks, planes, guns, etc., American seaports must work still more feverishly to keep this war production stream moving on schedule to our men on world-wide battlefronts.

At the Port of New Orleans, a great American seaport and production center, thousands of cars a day are being unloaded, and port traffic is on an unprecedented scale. The railroads, with the cooperation of shippers, are bending every effort to prevent bottlenecks at this critical point. The Louisiana and Arkansas Railroad, linking New Orleans with the raw material and production centers of the north, employs modern Lima-built steam locomotives of the 2-8-2 type to provide the speedy, economical train movement so essential to smooth, uninterrupted seaport traffic.

Steam power "Keeps 'em rolling".

LIMA LOCOMOTIVE WORKS — LIMA LOCOMOTIVE WORKS INCORPORATED — INCORPORATED, LIMA, OHIO

Spiller Manufacturing Corporation. Mr. Leach was born in Boston, Mass., in 1905 and is a graduate of Philips Exeter academy and Harvard university. He was formerly employed in the mechanical department of the Boston elevated railway, and joined the Hunt-Spiller Manufacturing Corporation as sales representative in 1930.

Gordon L. Leach

During the past year he has been handling affairs in connection with the Priority department, which he will continue to do in addition to his new duties.

OBITUARY

Charles A. Kropp, chairman of the board of the **Kropp Forge Company** and the Kropp Forge Aviation Company, Chicago, died on December 17 at his winter home at Miami Beach, Fla. Mr. Kropp was born at Annefors Bruk, Sweden, on June 26, 1865, and migrated to the United States in the late 80's. The present Kropp Forge Company had its roots in the water-powered forge shop founded by Mr. Kropp's father in 1837 at Annefors, Sweden, where C. A. Kropp learned his trade. In 1901,

Charles A. Kropp

Mr. Kropp organized one of Chicago's earliest job forging shops, the Sundberg-Kropp Company, from which the present Kropp Forge Company and subsidiaries have evolved. Mr. Kropp had been inactive the last several years, spending most of his time at his Florida and Round Lake, Ill., homes.

Abandonments

BALTIMORE & OHIO.—This road has applied to the Interstate Commerce Commission for authority to abandon its line from Blue Bell, Ohio, to Cumberland, 4.59 miles.

CENTRAL OF NEW JERSEY.—Division 4 of the Interstate Commerce Commission has dismissed for want of jurisdiction this road's application for authority to abandon its Pier 80 freight station in New York, N. Y.

DELAWARE & HUDSON.—This road's wholly owned subsidiary, the Greenwich & Johnsonville, has been authorized by Division 4 of the Interstate Commerce Commission to abandon a 0.721-mile line in Northumberland, N. Y.

KANSAS CITY SOUTHERN.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon its line from Fairmount Heights in Kansas City, Mo., to Independence, 1.6 miles.

LOUISVILLE & NASHVILLE.—This road has applied to the Interstate Commerce Commission for authority to abandon a one-mile section of branch line between Olcott, Ky., and Chenoa.

PENNSYLVANIA.—This road and the Grand Rapids & Indiana, lessor, have applied to the Interstate Commerce Commission for authority to abandon 21 miles of the latter's branch lines in Michigan. The lines involved are the Missaukee branch from a point near Cadillac to a connection with the Veneer branch at Veneer Junction, 15.32 miles; the Veneer branch from Veneer Junction to the end of the line at Falmouth, 4.64 miles; and the Lake City branch from a junction with the Missaukee branch at Sandstown to the end of the line at Lake City, 1.23 miles.

SOUTHERN PACIFIC.—In a proposed report in Finance Docket 13830, Examiner A. G. Nye has recommended that the Interstate Commerce Commission deny the application of this road's wholly owned subsidiary, the Petaluma & Santa Rosa, for authority to abandon a branch from Liberty, Calif., to Two Rock, 5.43 miles, on the ground that its operation will not cause any undue burden.

UNION PACIFIC.—This road and the Oregon Short Line have been authorized by the Interstate Commerce Commission, Division 4, to abandon operation of, and to abandon, respectively, a segment of the Idaho-Northern branch between mile post 99.73 and milepost 109.1, 9.37 miles, to make way for a reservoir project of the federal government, which is to construct at its own expense a substitute line, which the railroads are to operate.

WABASH.—In a proposed report in Finance Docket 13887 Examiner Lucian Jordan has recommended that the Interstate Commerce Commission deny this road's application for authority to abandon its branch from Bement, Ill., to Sullivan, 23.16 miles, on the ground that its operation is and has been profitable and public inconvenience would result from abandonment.

Equipment and Supplies

D. & R. G. W. to Spend $3,171,588

The Denver & Rio Grande Western has been authorized by the District Court to spend $3,171,588 for improvements to track and equipment. Of the total, more than $1,000,000 will be spent for 115-lb. and 131-lb. rails and $500,000 will be expended on centralized traffic control.

IRON AND STEEL

THE ATLANTIC COAST LINE has ordered 30,000 tons of rail from the Tennessee Coal, Iron & Railroad Co.

Why Meager Economic Merit Will Not Handicap Aviation

"Through the cooperation of the Civil Aeronautics Administration, a series of twenty textbooks on aviation, designed for junior and senior high school students, has been prepared by a committee of prominent educators, and since September nearly 400,000 of these volumes have been introduced in 5,000 school systems from coast to coast.

"High schools in all parts of the country are revising their courses in an effort to make the students 'air-minded.' Virtually every subject has been altered to stress the development of aviation and its role in the war. For the first time the secondary schools are to have standardized, educationally approved textbooks in this field.

"Aeronautical terms are extensively employed in the classroom today. In English classes, for example, literature of the air is replacing the classical readings of former years. Art students make posters with airplanes as the background, or paint pictures of flying cadets.

"In arithmetic classes pupils get some such problem as this: 'If a bomber can travel 250 miles an hour, how long would it take to reach its objective 1,175 miles away if it had to go out of its course 190 miles because of enemy interference?' To an important extent, a transformation has taken place in the teaching of geography, history, biology, chemistry and the other usual school subjects. In each case the impact of their age is stressed."

—*From the New York Times.*

News Department continued on next left-hand page

how to AVOID keeping locomotives WAITING FOR REPAIR PARTS!

Franklin is frequently urged to rush repair parts for locomotives undergoing repairs.

Today the delays caused by wrong priorities, difficulty in obtaining materials and the concentration of machines on war work, make it almost impossible to give the former prompt response to such requests.

For your own protection we suggest ordering currently against requirements that you know will be called for by planned maintenance schedules.

This is permissible under WPB regulations and will prevent delay in restoring locomotives to service.

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

Construction

ATLANTIC COAST LINE.—This railroad has authorized, and work is in progress on, the construction of 3.62 miles of second track on the Petersburg Belt line near Petersburg, Va., at estimated cost of $159,000.

LONG ISLAND.—The Long Island has completed full renovation and modernization of its Flatbush avenue terminal in Brooklyn, N. Y., and the Jamaica, L. I., station as part of a program of improving its stations, property, and equipment. The exteriors of both structures have been washed and sandblasted and inside the buildings new terrazzo floors have been laid, new lighting fixtures installed and wall surfaces and ceilings cleaned and repainted. Since January 1 of this year 94 Long Island stations have been repainted, with 9 now under way, leaving 29 to be painted in 1943. In many stations the washrooms have been improved by the installation of new tile walls and tile floors and modern plumbing fixtures—57 in all—have been installed. To keep these newly-renovated stations spotless, the station cleaning forces have been doubled.

Car cleaning has also been greatly intensified. Up to December 1, one-half of the Long Island's 1,399 passenger coaches had been repainted on the exterior, and one-third repainted both inside and out. In order to maintain the newly-painted cars in good condition, the car-cleaning forces likewise have been doubled.

Acting on a recommendation of the J. G. White Engineering Corporation's report, the railroad also has been steadily covering its roadbed with crushed stone ballast and to date 80,000 tons of stone have been spread, covering 47 miles. Proceeding simultaneously has been the laying of new steel rail and to date 2,561 tons of rail have been laid, principally on express tracks. A total of 159 self-propelled cars have been equipped with electric brakes during the year, leaving 190 to be thus equipped. At the rate of 25 per month, these installations are expected to be completed by the fall of 1943.

LOUISVILLE & NASHVILLE.—A contract has been awarded the C. G. Kershaw Contracting Company, Birmingham, Ala., for removing the materials from the Swan Creek branch line, extending from Swan Creek Jct., Tenn., to Gordonsburg, a distance of about 17 miles. The Interstate Commerce Commission authorized the abandonment of this branch line effective October 24, 1942.

PENNSYLVANIA. — This railroad has awarded contracts for the construction of a tank-car yard, tracks, etc., at Linden, N. J., to Charles F. Vachris, Inc., and for the construction of stockyards, etc., at Columbus, Ohio, to the Minton Construction Company.

WAR DEPARTMENT. — The U. S. Engineer office, Cincinnati, Ohio, has awarded a contract amounting to more than $100,000 and less than $500,000 to W. A. Gurtler & Co., Chicago, for the construction of additional railroad facilities in Ohio. The U. S. Engineer office, Gadsden, Ala., has awarded a contract amounting to more than $100,000 and less than $500,000 to Royce Kershaw & Co., Montgomery, Ala., for railroad construction in Alabama. The U. S. Engineer office, Los Angeles, Cal., has awarded a contract in amount less than $100,000 and more than $50,000 to Shannahan Bros., Los Angeles, for the construction of a railroad spur in California. The U. S. Engineer office, Atlanta, Ga., has awarded a contract in amount less than $50,000 to S. B. Slack, Decatur, Ga., for railroad construction in Georgia and the U. S. Engineer office, Portland, Ore., has awarded a contract to Natt McDougall & Co., Portland, for the construction of a railroad spur in Oregon.

Financial

BALTIMORE & OHIO.—*Seeks Tenders on 18 Issues.*—The Baltimore & Ohio has issued an invitation for tenders of 18 issues of the system's secured obligations. Roy B. White, president, announced that the purpose of the call was to give all holders an equal opportunity to share in the temporary wartime earnings of the company by tendering their bonds or notes if they cared to do so. Tenders must be received by January 16, and will be accepted or rejected not later than January 25. Securities covered by tender acceptances are to be delivered on or before February 10, 1943. The invitation for tenders is addressed to holders of the Baltimore & Ohio first mortgage 5's of 1948; first mortgage 4's of 1948; Southwestern division 5's of 1950; Pittsburgh, Lake Erie & West Virginia system 4's of 1951; Toledo-Cincinnati division 4's of 1959; also to the refunding and general mortgage series A 5's of 1995, series C 6's of 1995, series D 5's of 2000 and series F 5's of 1996; and the secured 4 per cent notes of 1944. Other issues are the Lincoln Park & Charlotte first mortgage 5's of 1949; Ohio & Little Kanawha first mortgage 5's of 1950; Buffalo, Rochester & Pittsburgh consolidated mortgage 4½'s of 1957; Buffalo & Susquehanna first mortgage 4's of 1963; Cincinnati, Indianapolis & Western first mortgage 5's of 1965; West Virginia & Pittsburgh first mortgage 4's of 1990; Cleveland Terminal & Valley first mortgage 4's of 1995; and Allegheny & Western first mortgage 4's of 1998.

CHICAGO & ILLINOIS MIDLAND.—*Elected chairman of the board.*—John F. Gilchrist, president of the Chicago & Illinois Midland from 1914 to June, 1940, has been elected a director and chairman of the C. & I. M. (owned by the Commonwealth Edison Company).

CHICAGO, BURLINGTON & QUINCY.—*Bond Issue.*—At the applicant's request, Division 4 of the Interstate Commerce Commission has vacated and set aside its order of May 20, 1938, permitting it to issue up to $15,000,000 of first and refunding mortgage 5 per cent bonds, series C, all of which have now been retired and cancelled.

CANADIAN PACIFIC.—*Elects New Directors.*—S. G. Blaylock and C. A. Dunning have been elected directors of this railroad to fill vacancies created by the deaths of Herbert S. Holt and W. N. Tilley.

DELAWARE & HUDSON.—*Bond Plan.*—Directors of the Delaware & Hudson Company and the Delaware & Hudson Railroad Corporation have approved a plan of adjustment in connection with $47,769,000 of first and refunding 4 per cent mortgage bonds of the former company, which mature next May 1. The plan calls for payment of 10 per cent of the principal in cash, and the balance by a 20-year extension of the bonds at the same interest rate. To provide for the amortization of the extended bonds, the plan calls for payment of two-thirds of net earnings after January 1, 1943, into a sinking fund—until the principal amount of the bonds outstanding has been reduced to $25,000,000. As long as more than this amount of bonds is outstanding, the company will also be required to pay into the sinking fund an amount equal to any dividend disbursements it may make—and dividends may not exceed one-sixth of net earnings so long as this sinking fund obligation is in operation. The plan also provides for pledging under this mortgage of additional securities owned by the company—or the sale of such securities and the application of the proceeds to the sinking fund. This is a reorganization under the McLaughlin Act (i. e., the revived "Chandler Act") and is conditioned upon its acceptance by a substantial number of holders and approved by the I. C. C.

ERIE.—*Northern of N. J.*—Notice of their intention to appeal to the United States circuit court at Philadelphia, Pa., an order approving the reorganization of the Northern of N. J., was filed with the United States district court at Newark, N. J., by two Northern stockholders. Under the reorganization plan, approved November 16, the Northern is acquired by the Erie.

GULF, MOBILE & OHIO.—*New Director.*—Frank M. Mayfield, president of the Scruggs, Vandervoort & Barney department store in St. Louis, Mo., director of the St. Louis chamber of commerce and head of the National Retail Dry Goods Association, has been elected to the board of directors of the Gulf, Mobile & Ohio, to succeed E. D. Scruggs, of Washington, D. C., who has resigned.

LOUISIANA & ARKANSAS.—*Lease and Operation.*—This road has applied to the Interstate Commerce Commission for authority to lease and operate a branch of the Missouri Pacific from Wildsville, La., to Concordia Junction, and to operate under trackage rights on the Missouri Pacific line from Concordia Junction to Vidalia, so as to continue service now effective between these points.

LOUISVILLE & NASHVILLE. — *Sinking Fund.*—This road has applied to the Inter-

News Department continued on next left-hand page

FUEL

a strategic material

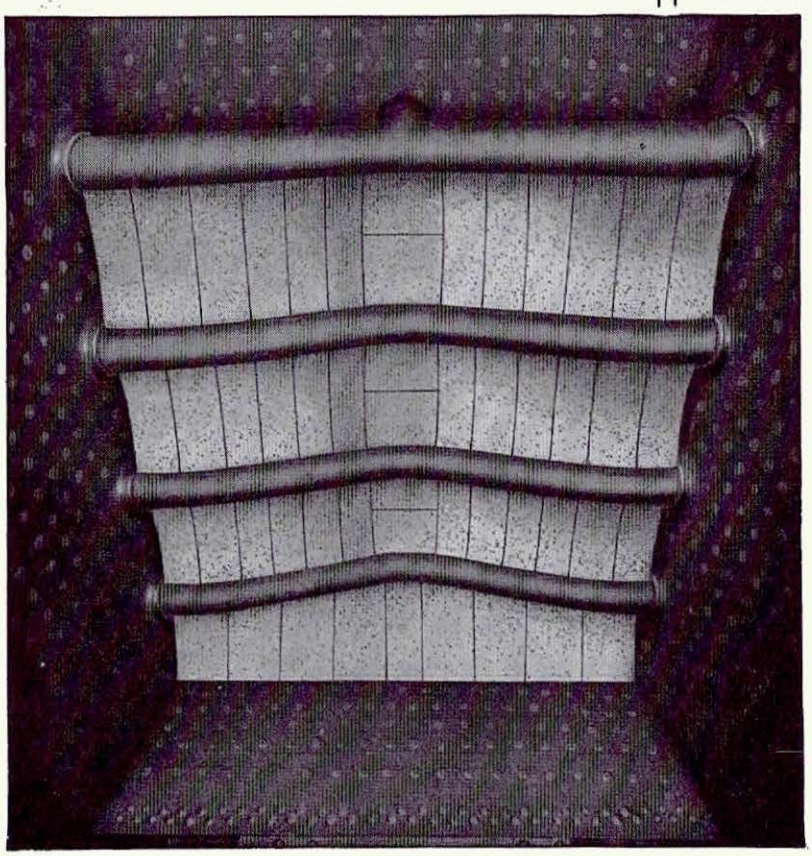
CONSERVED

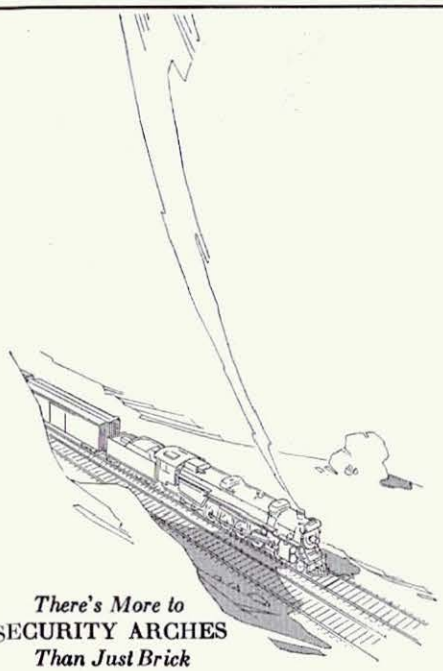
with Security Sectional Arches

Today, more than ever, fuel is one of our strategic materials. Making every pound of fuel produce the maximum amount of steam not only conserves this strategic material but also the cars required to transport it.

For over 32 years, Security Sectional Arches have been saving fuel on all types of steam locomotives.

But experience has proved that only with a *complete* Arch can maximum fuel economy be realized.

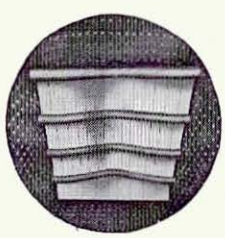




There's More to
SECURITY ARCHES
Than Just Brick

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists



AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

state Commerce Commission for authority to use bonds of its series E 3¼ per cent first and refunding mortgage bought with treasury funds in meeting requirements for sinking fund payments on that issue.

NORTHERN PACIFIC.—*Declares Common Dividend.*—Directors of the Northern Pacific on December 19 voted a dividend of $1 a share on the capital stock, payable February 1. This is the first payment on the railroad's common stock since February 1, 1932.

SEABOARD AIR LINE.—*To Buy Underlying Bonds.*—The United States district court at Norfolk, Va., on December 19 authorized the Seaboard Air Line to purchase the first mortgage bonds of the Raleigh & Gaston and the Raleigh & Augusta Air Line railway at a price of $900 for each $1,000 bond, plus accrued interest thereon at January 1, 1943. The authorization was effective until January 15. There are outstanding $1,000,000 of the Raleigh & Augusta bonds and $1,200,000 of the Raleigh & Gaston bonds.

SOUTHERN.—*Dividend.*—Directors of this company have declared $3.75 of dividends on its preferred stock out of this year's earnings—to be paid in three installments during the coming year. In November $1.25 was paid on this stock, so that the total disbursement on it, from 1942 earnings will be $5. In ten years, 1932-41 inclusive, no distribution was made to holders of these shares.

Dividends Declared

Allegheny & Western.—$3.00, semi-annually, payable January 1, 1943, to holders of record December 19.

Camden & Burlington.—75c, semi-annually, payable January 2, 1943, to holders of record December 15.

Canada Southern.—$1.50, semi-annually, payable February 1, 1943, to holders of record December 28.

Canadian Pacific.—4% Non-Cumulative Preferred, 2 Per Cent, semi-annually, payable February 1, 1943, to holders of record January 1, 1943.

Chicago & Eastern Illinois.—Class A Investment, 59c, payable January 15, 1943, to holders of record December 31.

Delaware.—$1.00, semi-annually, payable January 2, 1943, to holders of record December 15.

Joliet & Chicago.—Stamped Common, $1.75, quarterly, payable January 4, 1943, to holders of record December 23.

Louisiana & Missouri.—7 Per Cent Guaranteed Preferred (Accumulated), $21.00, payable November 20 to holders of record November 20.

Mahoning Coal R. R.—Common (Irregular), $5.00, payable December 15 to holders of record December 21; 5 Per Cent Preferred, $1.25, semi-annually, payable January 2, 1943, to holders of record December 21.

Morris & Essex.—$2.13, semi-annually, payable January 2, 1943, to holders of record December 11.

Northern Central.—$2.00, semi-annually, payable January 15, 1943, to holders of record December 31.

Philadelphia & Trenton.—$2.50, quarterly, payable January 9, 1943, to holders of record December 31.

Pittsburgh, Bessemer & Lake Erie.—75c, semi-annually, payable April 1, 1943, to holders of record March 15, 1943.

Providence & Worcester.—$2.50, payable December 31 to holders of record December 9.

Rochester & Genesee Valley.—$2.00, semi-annually, payable January 2, 1943, to holders of record December 19.

Tennessee, Alabama & Georgia.—Year-end, 50c, payable December 15 to holders of record December 4.

West Jersey & Seashore.—$1.50, semi-annually, payable January 2, 1943, to holders of record December 15.

Western New York & Pennsylvania.—Common, $1.50, semi-annually; 5 Per Cent Preferred, $1.25, both payable January 2, 1943, to holders of record December 31.

Railway Officers

EXECUTIVE

Earl B. Moffatt, assistant to the vice-president of operations of the Delaware, Lackawanna & Western, has been appointed assistant to the president, with supervision over the purchasing, the stores and the dining car department at New York, effective January 1, 1943.

L. A. Tibor, general traffic manager of the Gulf, Mobile & Ohio at Mobile, Ala., has been elected vice-president in charge of traffic. **Holly Stover,** executive representative and associate director of the Office of Defense Transportation at Washington, D. C., has been appointed vice-president of the Gulf, Mobile & Ohio, also with headquarters at Washington.

OPERATING

W. C. Quinn has been appointed chief dispatcher of the Hornepayne division of the Canadian National, with headquarters at Hornepayne, Ont., succeeding **A. E. McCullough,** whose promotion was noted in the *Railway Age* of December 5.

Perry M. Shoemaker, superintendent of the Morris and Essex division of the Delaware, Lackawanna & Western, with headquarters at Hoboken, N. J., has been promoted to general superintendent, with headquarters at New York, effective January 1, 1943.

T. L. Phillips, assistant trainmaster of the Atlanta division of the Nashville, Chattanooga & St. Louis, has been appointed trainmaster of the Atlanta division, with headquarters as before at Atlanta, Ga., succeeding **T. J. Hale,** who has been transferred to the Chattanooga division. **R. M. Williams** has been appointed assistant trainmaster, succeeding Mr. Phillips.

E. Lait, assistant superintendent of the Canadian National at Edson, Alta., has been transferred to Dauphin, Man., succeeding **W. B. Frame,** who in turn has been transferred to Edson, relieving Mr. Lait. **A. C. Nicholls,** chief clerk to the general superintendent of transportation at Winnipeg, Man., has been promoted to assistant superintendent at North Battleford, Sask.

R. C. Wheeler, assistant superintendent of the Canadian Pacific at Medicine Hat, Alta., has been promoted to superintendent of the Medicine Hat division, with the same headquarters, succeeding **E. S. McCracken,** whose promotion to general superintendent of the Algoma district, with headquarters at North Bay, Ont., was reported in the *Railway Age* of October 31.

T. J. Hale has been appointed assistant superintendent of the Chattanooga and Huntsville divisions of the Nashville, Chattanooga & St. Louis, with headquarters at Chattanooga, Tenn. **F. E. Carpenter** has been appointed assistant superintendent of the Nashville and the Paducah and Memphis divisions with headquarters at Memphis, Tenn. **G. S. Tally** has been appointed trainmaster of the Chattanooga and Huntsville divisions, with headquarters at Nashville, Tenn.

G. B. Daniel, assistant superintendent of the New River division of the Virginian, has been appointed superintendent of the Norfolk division, with headquarters at Victoria, Va., succeeding **Berkeley Mills,** who has been transferred to the New River division, with headquarters at Princeton, W. Va., succeeding **J. W. White,** who has retired, effective January 1, 1943. The position of assistant superintendent, formerly held by Mr. Daniel, has been abolished.

Richard W. Hall, attorney in the law department of the Boston & Maine, has been promoted to chief of personnel, operating department, with headquarters at Boston, Mass. Mr. Hall was graduated from Harvard university in 1910 and from Boston University Law school in 1913. During World War I, he was an officer in the United States Navy, in command of a sub-

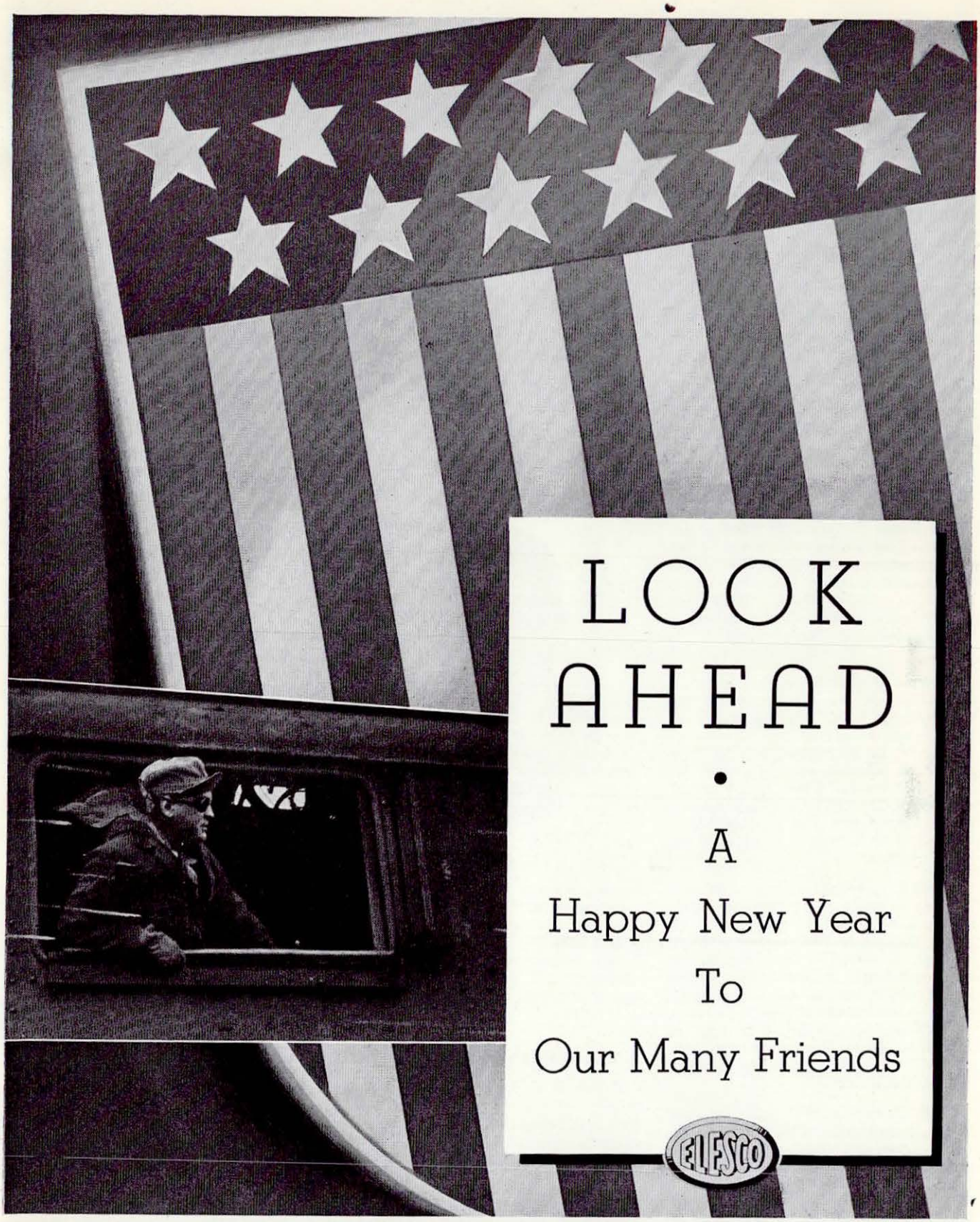
Richard W. Hall

chaser on duty in the English Channel, and was awarded the Navy Cross for Meritorious Service. He entered the service of the Boston & Maine on April 26, 1920, as assistant solicitor in the law department. In September, 1930, he was appointed attorney in the law department, remaining in this capacity until his recent appointment. In his new position, Mr. Hall will be in charge of all personnel matters for the Boston & Maine.

R. F. Watts, whose retirement as superintendent of terminals of the Southern at Birmingham, Ala., was reported in the *Railway Age* of December 19, was born at Collinsville, Ala., and entered the service of the Southern in 1901 as a brakeman on the Birmingham division. In 1905 he was advanced to conductor and on April 1, 1920, he was promoted to trainmaster. Mr. Watts was advanced to superintendent of terminals, with headquarters at Birmingham, on September 1, 1924, which position he held until his retirement.

B. T. McLeod, whose appointment as superintendent of terminals of the Southern

News Department continued on next left-hand page



THE
SUPERHEATER
COMPANY

SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

Representative of
AMERICAN THROTTLE COMPANY, INC.
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Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

at Birmingham, Ala., was reported in the *Railway Age* of December 19, was born at Grove Hill, Ala., on April 4, 1889, and entered railway service on February 1, 1906, as a clerk on the Southern at Dickson, Ala. A few months later he was promoted to agent at Dickson, later being transferred successively to Whatley, Ala., and Demopolis. On April 1, 1917, Mr. McLeod was promoted to inspector of agencies on the Mobile division, with headquarters at Selma, Ala., and on April 1, 1921, he was advanced to agent-yardmaster at Mobile, Ala. In 1937 he was appointed agent at New Orleans, La., and since May, 1942, he has been supervisor of rail terminals of the Office of Defense Transportation at New Orleans.

TRAFFIC

George L. Lucas, assistant general freight agent of the Ashley, Drew & Northern, with headquarters at Crossett, Ark., has been commissioned a lieutenant in the U. S. Army.

W. C. Rennick, traveling freight agent of the Texas & Pacific at Birmingham, Ala., has been promoted to general agent at that point, succeeding **J. D. Healy,** who has been transferred to New Orleans, La. Mr. Healy relieves **M. L. Craig,** who has been commissioned a first lieutenant in the Transportation Corps of the U. S. Army.

Rommie B. Smith, assistant coal traffic manager of the Illinois Central, has been promoted to coal traffic manager, with headquarters as before at Chicago, succeeding **N. L. Richmond,** who has been granted an indefinite leave of absence because of ill health. A photograph and biography of Mr. Smith were published in the *Railway Age* of July 18, page 122, at the time of his promotion to assistant coal traffic manager.

Harry C. Schmidt, assistant to the vice-president of traffic of the Delaware, Lackawanna & Western, has been promoted, effective January 1, 1943, to freight traffic manager, in charge of sales and service, with headquarters at New York. A photograph of Mr. Schmidt and a biographical sketch of his railway career appeared in the *Railway Age* of July 4, on page 40. **Joseph S. Sikora,** also freight traffic manager at New York, will remain in charge of rates and divisions.

G. E. Carter, general passenger agent of the Eastern lines of the Canadian Pacific, has been appointed assistant passenger traffic manager, with headquarters as before at Montreal, Que., succeeding **E. F. L. Sturdee,** who will retire on December 31. Mr. Carter entered the service of the Canadian Pacific as a stenographer in the passenger department at St. John, N. B., in 1914, but shortly thereafter left to enlist for service in the World War. Returning from overseas at the close of the war, he re-entered the passenger department of the Canadian Pacific at St. John. He subsequently held various positions in the same department at Quebec, and later served as chief clerk in the New York and Montreal offices of the passenger department. In 1928, he was appointed district passenger agent at St. John, and in 1930 he was advanced to assistant general passenger agent at Montreal. In June, 1932, Mr. Carter was promoted to general passenger agent at Montreal, which position he held until his recent promotion.

Mr. Sturdee entered railroad service with the Canadian Pacific as a clerk in the passenger department at St. John in 1893, and in 1897 was transferred to Toronto, Ont., serving at that point until 1902, when he became excursion clerk in the general passenger department at Montreal. In 1911 he became chief clerk in the general passenger department at Montreal, and in 1913 was appointed assistant district passenger agent at Toronto. He became general agent in the passenger department, with headquarters at Boston, Mass., in 1915, and in 1919 he was transferred to Seattle, Wash. In 1924, Mr. Sturdee was appointed acting general passenger agent of the Oriental organization of the Canadian Pacific at Hongkong, China, becoming general passenger agent there the same year. He re-

G. E. Carter

turned to Canada as assistant general passenger agent at Montreal in 1925, serving there until 1930, when he was promoted to general passenger agent at Vancouver, B. C. Mr. Sturdee was promoted to assistant passenger traffic manager, of the Eastern lines at Montreal, the position from which he is retiring, in October, 1937.

ENGINEERING & SIGNALING

Raymond C. Lowrey, engineer maintenance of way and structures of the Missouri & Arkansas, has been appointed chief engineer, with headquarters as before at Harrison, Ark., a change of title.

John C. Bock, bridge inspector of the Chicago, St. Paul, Minneapolis & Omaha at St. Paul, Minn., has been promoted to acting assistant chief engineer, with the same headquarters, succeeding **Charles E. Hise,** who has been granted a leave of absence for military service.

L. C. Dickinson, whose promotion to general signal engineer of the Union Pacific, with headquarters at Omaha, Neb., was reported in the *Railway Age* of December 19, entered railway service as a draftsman of the Union Pacific in 1906 and was appointed chief draftsman in 1907, office engineer in 1917 and signal draftsman in 1921. In 1928 he was appointed office engineer in the signal department at

L. C. Dickinson

Omaha and in June, 1942, he was advanced to assistant general signal engineer, which position he held until his recent promotion.

Blair Blowers, division engineer of the New York division of the Erie, with headquarters at Jersey City, N. J., has been appointed acting engineer maintenance of way of the Western district at Youngstown, Ohio, to succeed **H. M. Righter,** who has been granted a leave of absence because of ill health. **R. H. Jordan,** assistant division engineer of the Mahoning division, with headquarters at Youngstown, has been promoted to division engineer at the same point, to succeed **R. L. Dyke,** who has been transferred to the Delaware, Susquehanna & Tioga division, with headquarters at Hornell, N. Y., to replace **H. J. Weccheider,** who has been transferred to the New York division at Jersey City to replace Mr. Blowers.

MECHANICAL

J. D. Rezner, general car foreman of the Chicago, Burlington & Quincy, has been promoted to the newly created position of superintendent of the car department, with headquarters as before at Chicago.

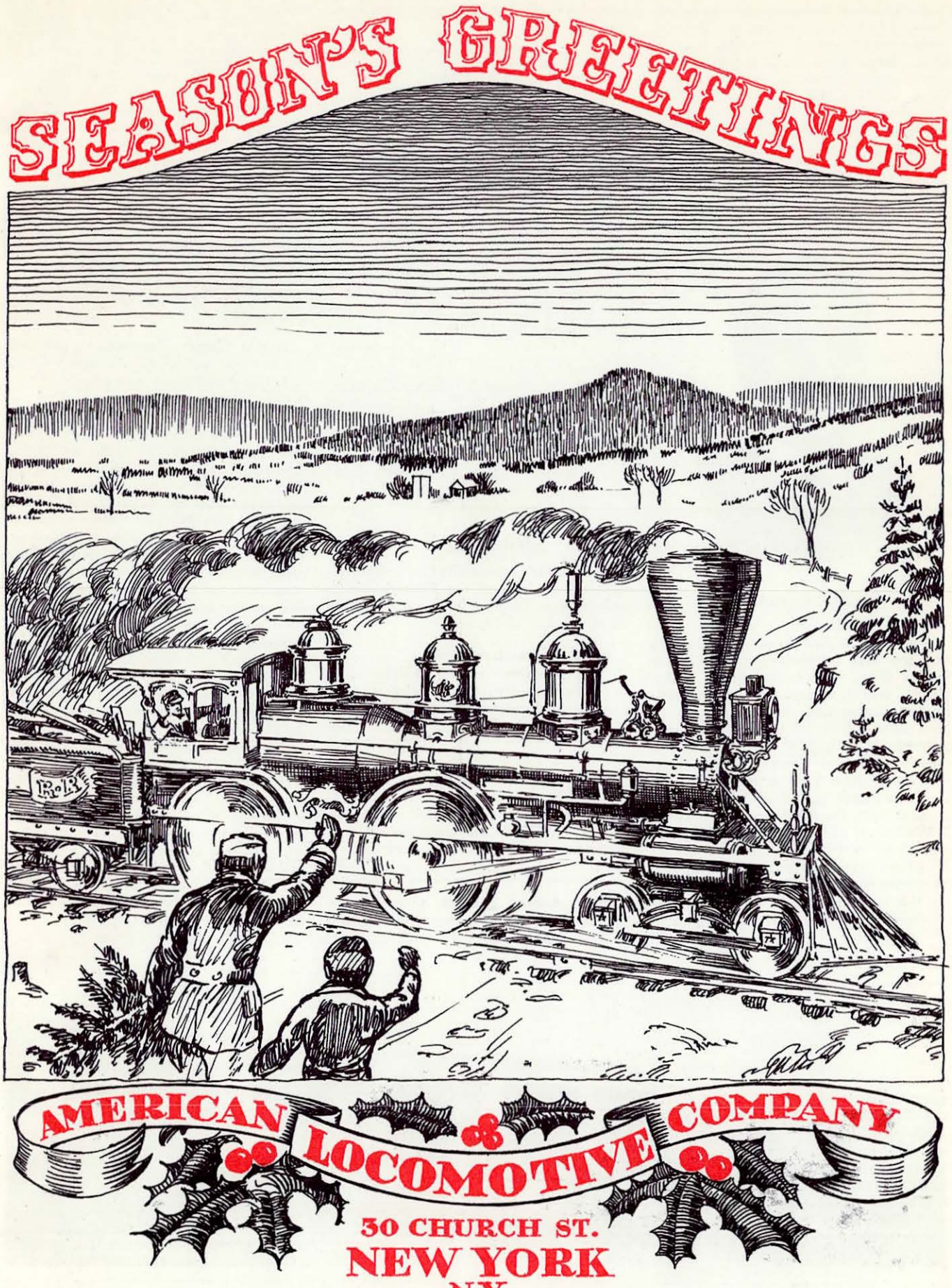
J. R. Keeley, general foreman of the Virginian, with headquarters at Roanoke, Va., has been appointed acting master mechanic at Victoria, Va., succeeding **W. G. Gray,** who has been transferred to Elmore, W. Va., succeeding **F. N. Hayes,** whose death on November 13 was noted in the *Railway Age* of November 21.

PURCHASES AND STORES

C. L. Wakeman, general storekeeper of the Wabash, with headquarters at Decatur, Ill., has been granted a leave of absence for military service and is now with the Services of Supply of the Transportation Corps, Washington, D. C.

G. P. Bier, buyer in the purchasing department of the Illinois Central and pre-

News Department continued on next left-hand page


SEASON'S GREETINGS
AMERICAN LOCOMOTIVE COMPANY
30 CHURCH ST.
NEW YORK
N·Y·

viously secretary to the vice president, purchases and stores, of the railroad, has been commissioned senior lieutenant, U. S. Navy, and assigned to the position of assistant supply officer at the Great Lakes Naval Training Station, Milwaukee, Wis.

Charles C. Hubbell, general purchasing agent of the Delaware, Lackawanna & Western at New York, will retire on January 1, 1943, after 47 years of service. **Russell E. King,** assistant to the general purchasing agent, has been appointed pur-

Charles C. Hubbell

chasing agent at New York. Mr. Hubbell, who was born on March 1, 1870, at Columbus, Miss., was educated at the Peekskill Military Academy. He entered railroad service in 1895, as a cashier of the New York & New Jersey Ferry Co. (now owned by D. L. & W.), and served in that capacity until 1898, when he became treasurer of the New York & Hoboken Ferry Co. (now owned by D. L. & W.). In 1903 he went with the Delaware, Lackawanna & Western as auditor of miscellaneous receipts. In 1909 he was appointed auditor of disbursements, and in 1910 was appointed purchasing agent at New York, retaining this position until 1935, when he was promoted to general purchasing agent at New York, the position from which he is retiring.

SPECIAL

Dr. F. J. Campos, L., has been appointed chief surgeon of the National Railways of Mexico, with headquarters at Mexico City, succeeding **Dr. Gabriel Malda.**

R. C. Overton, executive assistant of the Chicago, Burlington & Quincy, has been appointed to the newly created position of research director of the Burlington Lines, which include also the Colorado & Southern, the Ft. Worth & Denver City and the Wichita Valley, with headquarters as before at Chicago.

Donald Ashton, assistant advertising agent of the Chicago, Burlington & Quincy, has been promoted to the newly created position of publicity director of the Burlington Lines, which include also the Colorado & Southern, the Ft. Worth & Denver City and the Wichita Valley, with headquarters as before at Chicago.

OBITUARY

A. B. Clark, who retired as assistant to the chief engineer of the Pennsylvania in 1938, died in Trenton, N. J., on December 21 at the age of 75.

Felix E. Anderson, who retired in 1941 as general passenger and ticket agent of the Terminal Railroad Association of St. Louis, died of heart disease at the Missouri Baptist hospital, St. Louis, Mo., on December 9.

E. E. Helin, chief special agent of the Minneapolis & St. Louis, with headquarters at Minneapolis, Minn., died on November 28. He had been continuously connected with the M. & St. L. since May 1, 1908.

Irwin Ashton Seiders, retired superintendent of motive power and rolling equipment of the Reading Company, died on December 14, at his home at Reading, Pa. Mr. Seiders, who was born on October 23, 1864, was educated at the Tamaqua (Pa.) High school and entered railway service in January, 1882, as a laborer on the Reading. From 1883 to 1907, Mr. Seiders served with that road successively as depot hand, brakeman, fireman, engineman, extra passenger engineman and as regular passenger engineman at Tamaqua. On the latter date, he was promoted to the position of road foreman of engines at Reading, and in 1914 he became fuel inspector. In October, 1915, Mr. Seiders was appointed superintendent of motive power and rolling equipment, with headquarters at Reading, serving in that capacity until August, 1932.

Henry Hague Vaughan, at one time head of the mechanical department of the Canadian Pacific, died on a visit to Philadelphia, December 11. Mr. Vaughan was born at Forest Hill, England, December 28, 1868. He came to this country in 1891 and entered the employ of the mechanical department of the Great Northern at St. Paul, Minn. Seven years later he became mechanical engineer of the Q and C Company and the Railroad Supply Company, Chicago. In 1902 he was appointed assistant superintendent motive power, Lake Shore & Michigan Southern Railway. Two years later, in 1904, he became superintendent motive power of the Eastern Lines of the Canadian Pacific. He was promoted to assistant to the vice-president in the following year. He went with the Dominion Bridge Company in 1916 as a vice-president and made a remarkable record in the manufacture of munitions in Canada during the first World War. For many years he has acted as a consulting engineer, with headquarters in Montreal, and was associated with the Canadian Foreign Investment Corporation, Ltd., and the Companhia Brasileira de Cimento Portland, a South American cement concern. He was a former president of the Engineering Institute of Canada and served a term as vice-president of the American Society of Mechanical Engineers, of which he was elected an Honorary Member in 1939.

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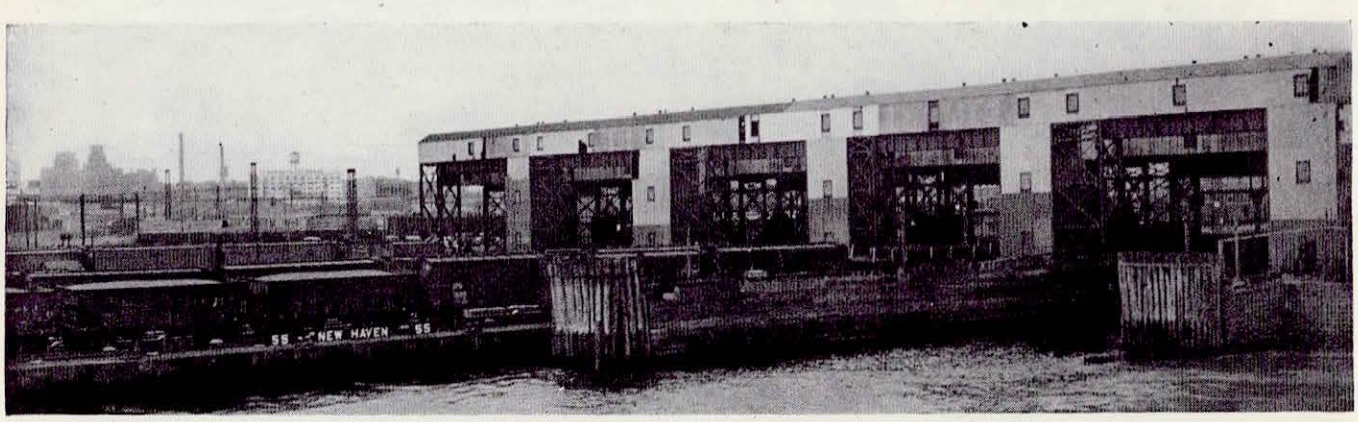

Car Float Slips at the New Haven's Oak Point Terminal, New York City

Freight interchanged with railroads on the New Jersey side of the Hudson River passes through this terminal. Machinery housed in the sheds above the slips raises and lowers the dock aprons to match changes in the tide, which varies here as much as 7 ft.

Greetings

With sincerest wishes to all for a

Prosperous

and a

Happy New Year

HUNT-SPILLER MFG. CORPORATION

V. W. Ellet Pres. & Gen. Mgr. / \ E. J. Fuller Vice-President

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Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 133 Monthly Reports of Revenues and Expenses Representing 136 Class I Steam Railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF OCTOBER, 1942 AND 1941

Item	United States		Eastern District		Southern District		Western District	
	1942	1941	1942	1941	1942	1941	1942	1941
Miles of road operated at close of month	230,294	232,060	56,817	57,112	43,609	44,045	129,868	130,903
Revenues:								
Freight	$587,611,590	$440,121,849	$227,205,151	$183,162,619	$109,305,754	$84,526,106	$251,100,685	$172,433,124
Passenger	108,322,441	42,230,773	46,113,111	21,581,304	21,053,610	6,757,538	41,155,720	13,891,931
Mail	9,723,692	9,281,601	3,540,339	3,446,790	1,718,755	1,573,482	4,464,598	4,261,329
Express	10,978,130	4,978,863	4,535,908	1,851,557	1,616,139	918,194	4,826,083	2,209,112
All other operating revenues	28,948,312	20,991,874	12,435,388	9,925,979	3,875,200	2,724,326	12,637,724	8,341,569
Railway operating revenues	745,584,165	517,604,960	293,829,897	219,968,249	137,569,458	96,499,646	314,184,810	201,137,065
Expenses:								
Maintenance of way and structures	75,930,228	62,632,348	30,086,541	25,361,493	13,707,800	10,615,775	32,135,887	26,655,080
Maintenance of equipment	106,980,178	96,649,298	45,775,085	45,329,664	20,638,063	17,673,323	40,567,030	33,646,311
Traffic	9,903,789	10,029,476	3,614,697	3,666,936	1,879,389	2,010,900	4,409,703	4,351,640
Transportation—Rail line	202,402,417	175,187,062	89,098,168	80,809,182	34,024,487	29,069,699	79,279,762	65,308,181
Transportation—Water line	4,505	19,239	.....	.....	.....	.....	4,505	19,239
Miscellaneous operations	7,661,727	4,486,222	2,802,000	1,994,083	1,179,979	554,805	3,679,748	1,937,334
General	13,547,510	12,967,226	5,384,088	5,147,224	2,692,891	2,636,238	5,470,531	5,183,764
Transportation for investment—Cr.*	.....	457,156	.....	90,663	.....	40,367	.....	326,126
Railway operating expenses	416,430,354	361,513,715	176,760,579	162,217,919	74,122,609	62,520,373	165,547,166	136,775,423
Net revenue from railway operations	329,153,811	156,091,245	117,069,318	57,750,330	63,446,849	33,979,273	148,637,644	64,361,642
Railway tax accruals	127,713,999	49,671,867	47,749,485	20,660,409	30,181,678	11,758,283	49,782,836	17,253,175
Railway operating income	201,439,812	106,419,378	69,319,833	37,089,921	33,265,171	22,220,990	98,854,808	47,108,467
Equipment rents—Dr. balance	13,156,803	9,485,057	5,277,652	4,691,372	603,582	*d* 267,646	7,275,569	5,061,331
Joint facility rent—Dr. balance	3,568,001	2,887,275	1,666,017	1,529,237	402,295	319,791	1,499,689	1,038,247
Net railway operating income	184,715,008	94,047,046	62,376,164	30,869,312	32,259,294	22,168,845	90,079,550	41,008,889
Ratio of expenses to revenues (per cent)	55.9	69.8	60.2	73.7	53.9	64.8	52.7	68.0
Depreciation included in operating expenses	23,229,683	17,814,842	11,389,023	7,920,366	3,936,804	3,611,393	7,903,856	6,283,083
Amortization of defense projects	8,626,723	1,942,821	2,851,289	343,056	2,375,693	259,196	3,399,741	1,340,569
Pay roll taxes	15,362,442	14,066,170	6,554,239	6,351,997	2,694,949	2,453,890	6,113,254	5,260,283
All other taxes	†112,351,557	35,605,697	41,195,246	14,308,412	27,486,729	9,304,393	43,669,582	11,992,892

FOR TEN MONTHS ENDED WITH OCTOBER, 1942 AND 1941

Miles of road operated at close of month‡	231,188	232,245	56,886	57,211	43,790	44,156	130,512	130,878
Revenues:								
Freight	$4,878,062,039	$3,673,104,636	$1,981,996,489	$1,571,904,511	$946,900,734	$713,913,624	$1,949,164,816	$1,387,286,501
Passenger	800,974,492	420,299,976	374,587,993	216,547,802	154,410,885	70,388,998	271,975,614	133,363,176
Mail	88,503,273	86,862,293	32,227,666	32,167,945	15,833,125	14,875,151	40,442,482	39,819,197
Express	75,381,537	48,429,046	27,743,721	19,253,888	12,164,970	9,529,250	35,472,846	19,645,908
All other operating revenues	230,202,313	181,432,040	106,374,373	88,724,963	29,694,034	22,158,193	94,133,906	70,548,884
Railway operating revenues	6,073,123,654	4,410,127,991	2,522,930,242	1,928,599,109	1,159,003,748	830,865,216	2,391,189,664	1,650,663,666
Expenses:								
Maintenance of way and structures	652,290,346	493,260,720	264,653,888	200,353,932	113,168,443	85,886,871	274,468,015	207,019,917
Maintenance of equipment	995,349,360	808,026,993	443,546,097	377,040,876	190,799,109	149,767,860	361,004,154	281,218,257
Traffic	97,126,469	92,339,259	35,270,498	33,116,166	19,053,137	18,034,718	42,802,834	41,188,375
Transportation—Rail line	1,828,465,938	1,431,099,366	830,603,231	660,855,361	310,691,172	239,436,379	687,171,535	530,807,626
Transportation—Water line	26,051	3,102,086	.....	.....	.....	.....	26,051	3,102,086
Miscellaneous operations	59,872,734	38,257,507	23,751,396	16,477,382	9,576,117	5,418,060	26,545,221	16,362,065
General	130,036,852	113,139,361	52,255,953	44,640,521	25,098,860	22,112,971	52,682,039	46,385,869
Transportation for investment—Cr.*	.....	3,196,260	.....	537,500	.....	587,852	.....	2,070,908
Railway operating expenses	3,763,167,750	2,976,029,032	1,650,081,063	1,331,946,738	668,386,838	520,069,007	1,444,699,849	1,124,013,287
Net revenue from railway operations	2,309,955,904	1,434,098,959	872,849,179	596,652,371	490,616,910	310,796,209	946,489,815	526,650,379
Railway tax accruals	1,001,328,058	472,047,088	380,895,419	199,078,316	256,410,918	117,783,455	364,021,721	155,185,317
Railway operating income	1,308,627,846	962,051,871	491,953,760	397,574,055	234,205,992	193,012,754	582,468,094	371,465,062
Equipment rents—Dr. balance	116,587,332	84,175,126	55,554,330	40,423,766	6,466,674	868,857	54,566,328	42,882,503
Joint facility rent—Dr. balance	32,084,254	27,855,466	16,846,111	15,167,037	3,540,424	3,090,728	11,697,719	9,597,701
Net railway operating income	1,159,956,260	850,021,279	419,553,319	341,983,252	224,198,894	189,053,169	516,204,047	318,984,858
Ratio of expenses to revenues (per cent)	62.0	67.5	65.4	69.1	57.7	62.6	60.4	68.1
Depreciation included in *operating* expenses	207,256,627	179,726,762	95,916,429	79,014,028	39,641,443	36,156,386	71,698,755	64,556,348
Amortization of defense projects	65,707,761	2,338,344	21,492,202	491,560	17,354,800	506,215	26,860,759	1,340,569
Pay roll taxes	140,743,862	111,510,660	61,480,807	49,748,585	24,799,429	19,292,265	54,463,626	42,469,810
All other taxes	‡860,584,196	360,536,428	319,414,612	149,329,731	231,611,489	98,491,190	309,558,095	112,715,507

d Decrease, deficit, or other reverse items.

‡ Represents an average of the mileage reported at the close of each month within the period.

* General Account VIII. Transportation for Investment—Cr. canceled effective January 1, 1942.

† Includes Federal income tax, surtax and excess profits tax amounting to $84,235,948.

‡ Includes Federal income tax, surtax and excess profits tax amounting to $633,741,997.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

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ONE OF THE MOST important jobs of Pennsylvania Railroad Traffic Representatives these days is to keep the Army, the Navy and war industries posted on the whereabouts of vital materials in transit.

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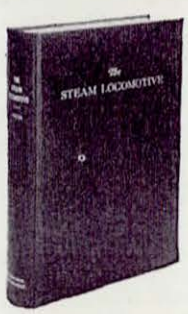

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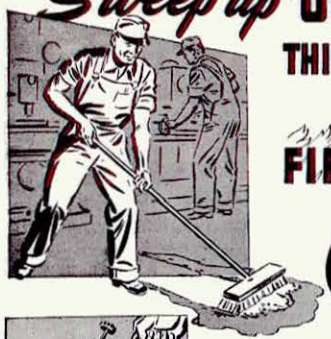

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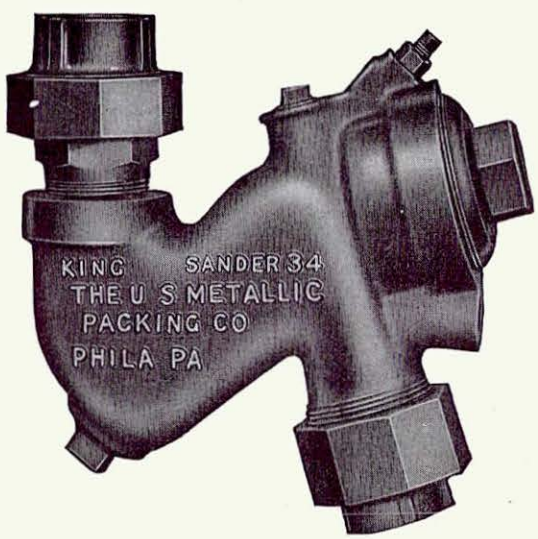

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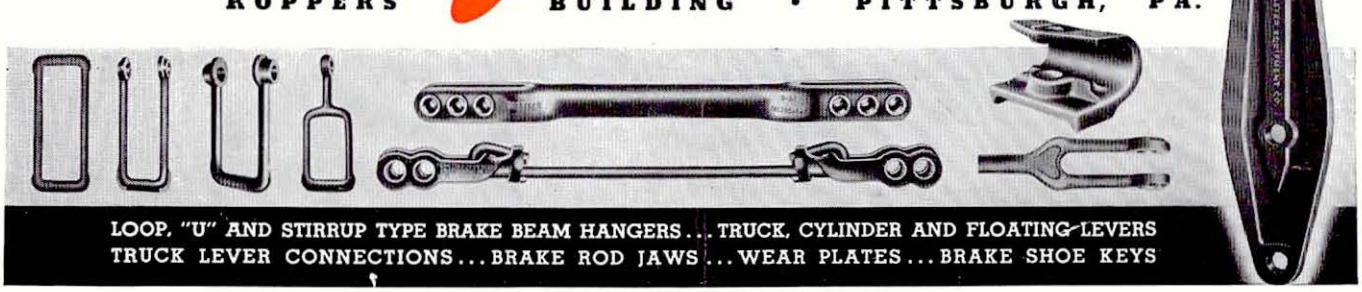

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